SHOWA DENKO K.K.

2/10/2016

2015 Consolidated Financial Results (Summary)

Ⅰ. Results for 2015

1. Summary

(Unit: billions of yen, except for stockholders' equity/share, net income/share and cash dividends/share)

Items	2014 Jan.1 - Dec.31	2015 Jan.1 - Dec.31	Increase
Net Sales	872.8	775.7	-97.1
Operating Income	20.6	33.5	13.0
Net Income	2.9	0.9	-2.0
Net income per share	¥1.99	¥0.64	¥-1.34
Stockholders' equity per share	¥209.76	¥207.61	¥-2.16
Cash dividends per share	¥3.00	¥3.00(planned)	-

2. Net sales and Operating Income by Segment (Year to year comparison)

(Unit: billions of yen)

Segment		2014 Jan.1 - Dec.31	2015 Jan.1 - Dec.31	Increase
Net Sales	Petrochemicals	281.4	231.3	-50.1
	Chemicals	138.7	142.3	3.6
	Electronics	138.5	131.5	-7.0
	Inorganics	67.6	63.5	-4.1
	Aluminum	97.9	100.8	2.8
	Others	191.6	147.2	-44.4
	Adjustments	-43.0	-40.8	2.2
	Total	872.8	775.7	-97.1
Operating Income	Petrochemicals	-4.9	10.5	15.5
	Chemicals	5.5	10.7	5.2
	Electronics	25.8	17.5	-8.3
	Inorganics	-0.3	-1.2	-0.9
	Aluminum	3.0	2.6	-0.4
	Others	-1.0	1.3	2.4
	Adjustments	-7.4	-7.9	-0.5
	Total	20.6	33.5	13.0

3. Net sales and Operating Income by Segment (Quarterly transition)

(Unit: billions of yen)

Segment		2015 CQ1 Jan.1 - Mar.31	2015 CQ2 Apr.1 - Jun.30	2015 CQ3 Jul.1 - Sept.30	2015 CQ4 Oct.1 - Dec.31
Net Sales	Petrochemicals	57.1	64.1	57.4	52.7
	Chemicals	34.6	35.3	36.4	36.0
	Electronics	33.0	32.0	33.5	33.0
	Inorganics	15.7	17.4	16.2	14.2
	Aluminum	23.1	26.9	25.9	24.9
	Others	39.5	37.5	34.9	35.3
	Adjustments	-11.1	-11.0	-8.6	-10.2
	Total	191.9	202.4	195.6	185.9
Operating Income	Petrochemicals	-1.7	7.7	2.7	1.9
	Chemicals	2.1	2.1	3.3	3.1
	Electronics	5.4	2.6	4.0	5.4
	Inorganics	-0.3	0.3	0.7	-1.9
	Aluminum	0.2	1.2	1.1	0.1
	Others	0.0	0.0	-0.2	1.6
	Adjustments	-1.9	-1.8	-2.1	-2.0
	Total	3.8	12.2	9.4	8.2

2/10/2016

Ⅱ. Forecast for 2016

1. Summary

(Unit: billions of yen, except for net income/share and cash dividends/share)

Items	2015	2016 Forecast	Increase
Net Sales	775.7	765.0	-10.7
Operating Income	33.5	36.0	2.5
Profit attributable to owners of parent	0.9	20.0	19.1
Profit attributable to owners of parent per share	¥0.64	¥14.00	¥13.36
Cash dividends per share	¥3.00(planned)	¥3.00	-

SDK will consolidate every ten shares of its common stock into one share on July 1, 2016. However, the above numbers are calculated on the basis of the number of outstanding shares before this consolidation.

2. Net sales and Operating Income by Segment

(Unit: billions of yen)

Segment		2015	2016 Forecast	Increase
Net Sales	Petrochemicals	231.3	211.0	-20.3
	Chemicals	142.3	144.0	1.7
	Electronics	131.5	121.0	-10.5
	Inorganics	63.5	67.0	3.5
	Aluminum	100.8	102.0	1.2
	Others	147.2	162.0	14.8
	Adjustments	-40.8	-42.0	-1.2
	Total	775.7	765.0	-10.7
Operating Income	Petrochemicals	10.5	12.0	1.5
	Chemicals	10.7	13.0	2.3
	Electronics	17.5	15.5	-2.0
	Inorganics	-1.2	-2.0	-0.8
	Aluminum	2.6	3.5	0.9
	Others	1.3	2.0	0.7
	Adjustments	-7.9	-8.0	-0.1
	Total	33.5	36.0	2.5

(Note) Amount of "Adjustment" includes company-wide costs which are not allocated to each segment.

Ⅲ. Cash Flow

(Unit: billions of yen)

Cash flows from:	2014	2015	Increase	2016 Forecast	Increase
Operating Activities	67.0	61.2	-5.8	69.0	7.8
Investing Activities	-46.9	-42.5	4.4	-53.0	-10.5
Free Cash Flow	20.1	18.7	-1.4	16.0	-2.7
Financing Activities	-24.9	-21.3	3.5	-7.8	13.5
Newly Consolidated	2.8	-1.1	-3.9	0.0	1.1
Net increase in Cash	-1.9	-3.7	-1.8	8.2	11.9

Ⅳ. Reference

(Unit: billions of yen, expect for total number of employees, exchange rate and domestic naphtha price)

Items	2014	2015	Increase	2016 Forecast	Increase
Capital expenditures	47.3	44.1	-3.3	50.3	6.3
Depreciation and amortization	40.7	42.1	1.5	40.4	-1.7
R & D expenditures	20.4	20.3	-0.1	20.4	0.2
Gap between interest expense and	-0.8	-2.2	-1.3	-2.4	-0.2
Total number of employees	10,577	10,561	-16	10,665	104
Exchange rate (yen/US$)	105.9	121.1	15.2	119.0	-2.1
Domestic naphtha price (yen/kl)	69,700	46,000	-23,700	42,200	-3,800
Interest-bearing debt	383.1	368.8	-14.3	370.0	1.2
Total assets	1,009.8	940.5	-69.3		

Notes : 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 for our products, market conditions, and foreign exchange rates. We undertake no obligation to update the forward-looking statements unless required by law.
Underlined parts are corrected from the previous version.

SHOWA DENKO K.K.

Consolidated Financial Statements

For the year ended December 31, 2015

Ⅰ. Consolidated Financial Results

(1) Results of operations: (¥ in millions, US$ in thousands, except for net income per share)

	Results for the year ended December 31			
	2014	2015	Increase (Decrease)	2015
	¥	¥	%	$
Net sales	872,785	**775,732**	(11.1)	**6,431,739**
Operating income	20,551	**33,508**	63.0	**277,823**
Ordinary income	21,731	**32,050**	47.5	**265,730**
Net income	2,929	**921**	(68.6)	**7,636**
Net income per share: Basic	1.99	**0.64**	—	**0.01**
Net income per share: Diluted	—	—	—	—
	%	%		
Net income on equity	1.0	**0.3**		
Ordinary income on total assets	2.2	**3.3**		
Operating income to net sales	2.4	**4.3**		

Notes
Important changes in accounting policies : applicable
Comprehensive income:
Results for the year ended December 31,2015 ¥-10,945million
Results for the year ended December 31,2014 ¥16,540million

(2) Financial position: (¥ in millions, US$ in thousands, except for net income per share)

	Dec. 31, 2014	Dec. 31, 2015	Dec. 31, 2015
	¥	¥	$
Total assets	1,009,843	**940,494**	**7,797,813**
Total equity	319,087	**308,142**	**2,554,865**
Total equity per share	209.76	**207.61**	**1.72**
	%	%	%
Stockholders' equity ratio	29.7	**31.5**	**31.5**

(3) Cash flows: (¥ in millions, US$ in thousands)

	Results for the year ended December 31		
	2014	2015	2015
	¥	¥	$
Cash flows from operating activities	66,996	**61,170**	**507,175**
Cash flows from investing activities	(46,876)	**(42,497)**	**(352,350)**
Cash flows from financing activities	(24,856)	**(21,336)**	**(176,903)**
Cash and cash equivalents at end of the year	55,162	**54,597**	**452,672**

(4) Dividends:

	2014	2015	2016 forecast
Q1 dividends per share (¥)	—	—	—
Q2 dividends per share (¥)	0.0	**0.0**	0.0
Q3 dividends per share (¥)	—	—	—
End of Term dividends per share (¥)	3.0	**3.0**	3.0
Annual dividends per share (¥)	3.0	**3.0**	3.0
Total dividends (¥ in millions)	4,285	**4,285**	—
	%	%	%
Payout ratio (consolidated)	150.8	**468.8**	21.4
Net assets dividend yield (consolidated)	1.3	**1.4**	—

※The dividends for 2015 is still undecided.

Ⅱ. Forecast of performance for the year ending December 31, 2016

(¥ in millions, US$ in thousands, except for net income per share)

	1st half		fiscal year	
	¥	$	¥	$
Net sales	360,000	2,984,827	765,000	6,342,758
Operating income	10,000	82,912	36,000	298,483
Ordinary income	7,500	62,184	31,000	257,027
Net income	2,000	16,582	20,000	165,824
Net income per share	1.40	0.01	14.00	0.12

※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.

Notes
The U.S. dollar is valued at ¥120.61 throughout this statement for convenience only.

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

(1) Summary

In 2015, the Japanese economy continued to recover gradually, though there were slightly bearish tendencies in export and production. Corporate earnings maintained a high level due to a fundamentally weak yen and sluggish crude-oil prices. Consumer spending showed a steady change due to upward tendencies in employment and personal income. As for overseas economies, the US economy maintained gradual recovery. Though the European economy has unstable factors including the turmoil in Greece, there was economic recovery in Germany and the United Kingdom. On the other hand, China showed clear sign of business slowdown, and other newly rising nations in Asia experienced bearish economy under the influence of the business slowdown in China. Economies of resource-producing countries also slowed down due to falls in prices of resources including crude oil.

In the petrochemical industry, operating rates at domestic plants maintained high levels. The market conditions for petrochemical products including olefins remained firm during the second half of the year, because the effects of the large drop in prices of crude oil at the end of 2014 peaked off at the beginning of 2015. The electronic parts/materials industry maintained high level production of semiconductors including memory chips for smartphones both at home and abroad, though the production of PCs showed a falling tendency.

Under these circumstances, the Showa Denko Group executed “PEGASUS Phase II” as the consolidated medium-term business plan for the period of 2014-2015. To establish ourselves as a chemical company with a strong presence on the global market, we promoted growth strategies in which our HD media graphite electrode businesses served as “Wings.” At the same time, in order to further enhance our earning power, we focused our efforts on strengthening the four businesses classified in the “Growth” category, namely, aluminum cans, high-purity aluminum foil, semiconductor-processing high-purity gases, and functional chemicals, accelerating their expansions mainly in the growing Asian market. In 2015, we expanded and strengthened overseas production bases of these four businesses. In December 2015, we announced our new medium-term consolidated business plan “Project 2020+” and started to execute it in January 2016. Under this new business plan, in order to achieve continuous growth of the Showa Denko Group, we will expand and strengthen our “individualized businesses,” reform our business structure, strengthen our revenue base, and enhance our corporate value.

The Group recorded consolidated net sales of ¥775,732 million in 2015, down 11.1% from the previous year. While sales in the Chemicals and Aluminum segments increased, sales in the Petrochemicals, Electronics, Inorganics and Others segments decreased. Operating income jumped 63.0%, to ¥33,508 million. The Petrochemicals segment recorded considerable increase in operating income due to the recovery in the market for petrochemical products in the middle of the year, in addition to the rebound from the periodic shutdown maintenance which took place in 2014. The Chemicals segment recorded higher income due to the good sales of electronic chemicals to the thriving semiconductor industry. The Others segment also recorded higher income. On the other hand, the Electronics segment recorded lower income due to lower shipment volumes of HD media and loss on write-down of the book value of rare earth inventory in the second quarter. The Inorganics and Aluminum segments also recorded lower income.

The Group recorded ordinary income of ¥32,050 million, up 47.5%. The group posted a net income of ¥921 million, down 68.6%, due partly to the increase in the amount of extraordinary loss resulting not only from the posting of provision of allowance for doubtful accounts concerning Shoko Co., Ltd.'s business in China, but also from the posting of impairment loss concerning fixed assets of Showa Denko Sichuan Carbon Inc. of China. Increase in tax expenses also decreased net income.

(Unit: millions of yen)

	2014 Jan.-Dec.	2015 Jan.-Dec.	Increase/decrease
Sales	872,785	775,732	-97,053
Operating income	20,551	33,508	12,957
Ordinary income	21,731	32,050	10,319
Net income	2,929	921	-2,008

(2) A breakdown of net sales and operating income by segment (January 1 - December 31, 2015)

[Petrochemicals segment]
The Petrochemicals segment's sales decreased 17.8%, to ¥231,288 million. Production of ethylene and propylene increased from the previous year due to the recovery from the influence of the once-in-four-year periodic shutdown maintenance held in 2014. Under the circumstances, shipment volumes of major olefin products including ethylene and propylene increased. However, overall sales of olefins decreased due to a fall in market prices reflecting the sharp drop in raw naphtha price. Sales of organic chemicals were down due to depressed vinyl acetate market, though sales of ethyl acetate increased due to higher shipment volumes. The segment recorded operating income of ¥10,543 million, an improvement of ¥15,473 million, due mainly to the advancement in olefins margin.

(Unit: millions of yen)

	2014 Jan.-Dec.	2015 Jan.-Dec.	Increase/decrease
Sales	281,400	231,288	-50,112
Operating income	-4,930	10,543	15,473

[Chemicals segment]
The Chemicals segment's sales increased 2.6%, to ¥142,292 million. Though production of liquefied ammonia decreased from the previous year, production of electronic-material-processing high-purity gases increased. With regard to our basic chemicals business, sales of chloroprene rubber increased due to higher shipment volumes to the Unites States, while sales of liquefied ammonia decreased due to lower shipment volumes. Sales of acrylonitrile decreased following a fall in market prices. Sales of electronic chemicals increased due to a major increase in shipment volumes of electronic-material-processing high-purity gases reflecting a boost in production of semiconductors in East Asia. Sales of functional chemicals were up due to consolidation of Shanghai Showa Highpolymer Co., Ltd. at the beginning of the year, despite reduction in domestic shipment volumes. Sales of industrial gases were maintained at the level of the previous year. Operating income of the segment rose 96.1%, to ¥10,707 million.

(Unit: millions of yen)

	2014 Jan.-Dec.	2015 Jan.-Dec.	Increase/decrease
Sales	138,695	142,292	3,597
Operating income	5,460	10,707	5,247

[Electronics segment]

The Electronics segment's sales decreased 5.1%, to ¥131,492 million. Production of HD media decreased due to the backlash from high level replacement demand for PCs in the previous year triggered by the expiration of support for an old version of operating system. Thus sales of HD media decreased due to lower shipment volumes. Sales of rare earth magnetic alloys decreased due to a fall in market prices under the influence of the repeal of export duty on rare earths by China in May 2015. Sales of compound semiconductors also decreased. Operating income of the segment decreased 32.2%, to ¥17,472 million.

(Unit: millions of yen)

	2014 Jan.-Dec.	2015 Jan.-Dec.	Increase/decrease
Sales	138,537	131,492	-7,045
Operating income	25,770	17,472	-8,298

[Inorganics segment]

The Inorganics segment's sales decreased 6.0%, to ¥63,476 million. Sales of graphite electrodes decreased due to the reduction in shipment volumes, owing to stagnated steel industry of the United States resulting from depressed demand for oil well pipes and import of low-priced steel, and also owing to the weak supply demand situation in Asian steel market resulting from the export of steel materials from China. Sales of ceramics slightly decreased. The segment recorded an operating loss of ¥1,249 million, a deterioration of ¥949 million.

(Unit: millions of yen)

	2014 Jan.-Dec.	2015 Jan.-Dec.	Increase/decrease
Sales	67,557	63,476	-4,081
Operating income	-300	-1,249	-949

[Aluminum segment]

The Aluminum segment's sales rose 2.9%, to ¥100,756 million. Production of high-purity foil for aluminum electrolytic capacitors in China increased due to the start of commercial operation of expanded facility of Showa Denko Aluminum (Nantong) Co., Ltd., China, while production of that in Japan decreased. Overall sales of rolled products slightly increased due to sales increase in China. Sales of aluminum specialty products decreased due to reduction in shipment volumes to manufacturers of cars and other transportation equipments. Sales of aluminum cans were up due to the increase in shipment volumes of cans for coffee beverages and consolidation of Hanacans Joint Stock Company of Vietnam In June 2014, which contributed to the increase of consolidated sales throughout 2015. Operating income of the segment decreased 14.5%, to ¥2,563 million.

(Unit: millions of yen)

	2014 Jan.-Dec.	2015 Jan.-Dec.	Increase/decrease
Sales	97,946	100,756	2,811
Operating income	2,999	2,563	-436

[Others segment]
The Others segment's sales decreased 23.2%, to ¥147,233 million. Sales of lithium ion battery (LIB) materials were increased due to the start of full-scale shipment for car applications, in addition to higher shipment volumes for smartphones. Shoko Co., Ltd.'s sales significantly decreased due to the fall in sales of its steel related business in China. The segment recorded an operating income of ¥1,329 million, an improvement of ¥2,370 due to higher shipment volumes of LIB materials.

(Unit: millions of yen)

	2014 Jan.-Dec.	2015 Jan.-Dec.	Increase/decrease
Sales	191,610	147,233	-44,376
Operating income	-1,041	1,329	2,370

(3) Major steps taken or decided in 2015
[General]
- Formulation of new medium-term business plan "Project 2020+"

  In January 2016, SDK launched its new medium-term consolidated business plan "Project 2020+" for the 2016-2020 period. In the global market, SDK will expand its "individualized businesses" which are expected to maintain their high-level profitability and stability, and make as many businesses as possible to have large shares in the market, aiming to strengthen the Group's capacity to resist market fluctuations and enhance the value of the Group. The details of the plan including strategies and numerical targets are explained in "5. Management Policy, (2) Medium to long-term business strategy."

- Receiving "Thomson Reuters 2015 Top 100 Global Innovators Award"

  SDK received "The Thomson Reuters 2015 Top 100 Global Innovators" award. Thomson Reuters honors the world leaders in innovation each year, utilizing its value-added patent citation database and intellectual property intelligence platform with scientific and objective methodology. SDK has been recognized for its achievements in globalization and citation influence concerning its patents. The Showa Denko Group is working to establish its competitive advantages for its global business activities, positively applying for patents to protect inventions across the major world markets. The Group will continue promoting its intellectual property strategy through close integration with business and R&D strategies.

- Starting mass-production of transparent conductive ink for electronics

  In May 2015, SDK and Microwave Chemical Co., Ltd. jointly developed a technology to mass produce silver nanowire ink that forms transparent electro-conductive patterns through utilization of printing technology. In 2012, SDK developed printable silver nanowire ink jointly with National University Corporation Osaka University. However, establishment of technology that realizes stable mass production of silver nanowires was a problem. This time, SDK and Microwave Chemical jointly developed a method to synthesize silver nanowires with microwave heating. This production method utilizes the property of silver nanoparticles that, when microwave is irradiated on silver nanoparticles in their growth process to silver nanowires, only the growing ends absorb energy and generate heat. Through this method, we successfully produced slender nanowires with great efficiency.

[Petrochemicals segment]
- Signing multi-technology acetyls licensing agreement with KBR of the US

In January 2015, SDK concluded a business alliance agreement with KBR Inc., an engineering company headquartered in Texas, to cooperatively market SDK's proprietary technologies to produce acetic acid and its derivatives (acetyls). Under this licensing agreement, SDK will provide KBR with its proprietary technologies to catalyze and process acetic acid to produce its derivatives, and its skills and know-how on plant operation, which were cultivated over many years. SDK will aim to seek more opportunities to license its proprietary acetyls-related technologies by utilizing KBR's sales network.

[Chemicals segment]

- Expanding utilization of used plastic to produce liquefied ammonia "*ECOANN*™"

In July 2015, SDK completed the expansion of used-plastic gasification facility at the Kawasaki Plant. After the expansion, the percentage of hydrogen from used plastic to produce liquefied ammonia "*ECOANN*™" will increase to 65%. This investment is partly subsidized by the Ministry of Economy, Trade and Industry's interest subsidy program for the promotion of effective utilization of resources*. Under the program, SDK received a loan from the Development Bank of Japan, Inc. The method to produce hydrogen from used plastic entails significantly lower environmental burden compared to the conventional methods to produce hydrogen from petroleum-derived raw materials. *ECOANN*™ has been approved and rated high as "eco-friendly goods for procurement" by major electric power companies. Moreover, in July 2015, SDK's proprietary process to produce this liquefied ammonia was accredited by Japan Environment Association, which sponsors the "Eco Mark Program" to praise environment friendly products/processes, to be eligible for Eco Mark, an official Japanese program in conformity with Type-1 environmental labelling principles hosed by Global Eco-labelling Network*, as the first case of production process in the world. In January 2016, SDK was awarded a "Silver Prize in the Eco-Mark Awards 2015***" from Japan Environment Association. SDK will continue developing environment friendly products and production processes.

*Under this program, the Japanese government provides interest subsidies for bank loans to firms investing in plant and equipment that promote effective utilization of recyclable resources.

**Eco Mark Program is hosted by Japan Environment Association, which is a member of Global Eco-labelling Network. Eco Mark is awarded to products/processes certified by third party certification authorities to have environmental superiority. Certification process of Eco Mark is operated in conformity with Type-1 environmental labelling principles defined in ISO 14024.

***"Eco Mark Awards" is a program established by Japan Environment Association in 2015 to commend companies and organizations that made enormous contribution to the "formulation of sustainable society where companies strive to realize better environment and consumers can choose environment-conscious goods and services," which is the purpose of the Eco Mark Program hosted by Japan Environment Association, through production, sale and spread of environment conscious products and services including eco-mark products.

- Expanding and strengthening overseas bases to produce electronic-materials-processing high-purity gases

a) Strengthening high-purity N_2O base in South Korea

SDK has increased its capacity for supplying high-purity nitrous oxide (N_2O), a specialty gas used to form oxide film in the process of producing semiconductors or LCDs, by cooperating with Dooam Industrial (Dooam), headquartered in Anseong, Gyeonggi Province, South Korea. Having jointly constructed a purification facility within the premises of Dooam's plant near Seoul, the two companies started full-scale operation of the new facility in March 2015. With the addition of the newly completed 600t/y facility in South Korea to the existing 1,200t/y plant in Japan, the Showa Denko Group's high-purity N_2O supply capacity increased to 1.5 times of the previous level.

b) Expanding capacities to produce high-purity hydrogen fluoride and high-purity hydrogen bromide

In March 2015, SDK expanded capacities to produce high-purity hydrogen fluoride (HF) and high-purity hydrogen bromide (HBr), which are specialty gases for semiconductor production. High-purity HF is mainly used as a cleaning gas. In recent years, the number of cases where HF is used as an etching gas in the process of dry etching is increasing. Therefore, SDK expanded its HF production facility in Kawasaki Plant to double the capacity. SDK also decided to build a new facility to produce high-purity HF in the premises of its wholly-owned subsidiary Shanghai Showa Electronics Materials Co. Ltd. High-purity HBr is used for etching of polysilicon in the manufacturing process of semiconductors including NAND flash memories and DRAMs. SDK is the sole company in the world that has integrated HBr production system from synthesis of crude HBr to purification of it to produce high-purity HBr gas. SDK has been expanding the amount of sales of HBr with its efficient and flexible production system and its advanced purification, analysis and quality control technologies. Since the demand for semiconductor memories is increasing very rapidly centering on the use in portable terminals and data centers, in the second quarter of 2015, SDK expanded its capacity to produce high-purity HBr to 600t/y, which is 1.5 times of the previous level.

c) Boosting high-purity ammonia production in Taiwan

In December 2015, SDK expanded its capacity to supply high-purity ammonia by stepping up the production capacity of a plant owned by Taiwan Showa Chemicals Manufacturing Co., Ltd., a manufacturing subsidiary, from 2,500t/y to 3,500t/y. The Showa Denko Group has three bases to produce high-purity ammonia, which are located in Japan, Taiwan and China. As a result of this step-up, the total production capacity of these three bases was increased to 7,000t/y. Our sales of high-purity ammonia in Taiwan have been favorably increasing not only because the market for compound semiconductors and LCD panels in Taiwan has been expanding, but also because our efficient production system and advanced purification, analysis and quality-control technologies are highly acclaimed by local customers.

SDK will surely respond to and make the most of the increase in demand for electronic-materials-processing high-purity gases in East Asia by expanding and strengthening its production bases and establishing reliable supply chain management system in global scale.

- Launching new multipurpose isocyanate monomer *AOI-VM*™

In December 2015, SDK started to sell "*AOI-VM*™", a new grade product of high-performance isocyanate monomer "*Karenz AOI*™"* which is widely used as resisting material for microfabrication in production of LCDs and semiconductors. *AOI-VM*™ is designed for general industrial use. *AOI-VM*™ can perform isocyanate-curing at relatively low temperature. Therefore, *AOI-VM*™ can contribute to energy conservation in paint coating processes for plastic goods and automobiles through synthesis of high-performance resins taking advantage of *AOI-VM*™'s low-temperature thermo-curing property. *Karenz AOI*™ is absolutely unique product which is mass produced only by SDK. SDK will meet customers' expectations through addition of general industrial grade product *AOI-VM*™ to the lineup of its isocyanate monomer, in addition to *Karenz AOI*™ which is specialized as material for electronics.

**Karenz AOI*™ is an isocyanate monomer, whose molecular has a reactive isocyanato group and a polymerizable acrylic group.

- Locating second bulk molding compound plant in China

In July 2015, SDK established Showa Denko New Material (Zhuhai) Co., Ltd., a new production site for thermosetting bulk molding compound (BMC*) in Zhuhai, Guangdong Province, China, as its second BMC plant in China, jointly with Eternal Materials Co., Ltd., a synthetic resin manufacturer based in Taiwan. SDK Group's BMC business sector has production sites at three locations, in Japan, Shanghai, and Thailand. SDK Group's sales of BMC in China is expected to continue recording annual growth rate of 15% in average for quite a while, and will exceed the production capacity of the BMC plant in Shanghai. By establishing another BMC plant, SDK Group will strengthen its BMC supply system in the growing Chinese market.

*BMC is a thermosetting bulk molding compound resin made from unsaturated polyester resin as main component, kneaded together with glass fiber and other additives. BMC is used as headlamp reflectors and engine covers for car applications, and encapsulation material for home electrical appliances and precision parts.

- Splitting and transferring phenolic resin business

SDK split and transferred its phenolic resin business to its wholly owned subsidiary AICA SDK PHENOL CO., LTD. on September 1, 2015. On the same day, SDK transferred 85% of the AICA SDK PHENOL's share to Aica Kogyo Company, Limited, whose head office is located in Kiyosu City, Aichi Prefecture, Japan, to make AICA SDK PHENOL a joint corporation.

[Electronics segment]

- Starting commercial production of 2.5-inch 750 GB HD media

In March 2015, SDK started shipment of 2.5-inch hard disk (HD) media with storage capacity of 750 gigabytes per platter, the world's highest storage capacity for this size available on the market to date*. The new 2.5-inch HD media we started to ship is classified into the eighth-generation of perpendicular magnetic recording (PMR) technology based media. As the world's largest independent HD media supplier, SDK will aim to continue leading the development of HD media with higher capacities including next generation 2.5-inch HD media with storage capacity of 1 terabyte, following the launch of 750 gigabyte media. SDK will also aim to continue meeting expectations of our customers in HDD industry by ensuring stable supply of high-capacity media.

*As of February 5, 2015 (To the best of SDK's knowledge)

- SDK's media now used in world's-highest-capacity 10TB HDD

SDK's HD media have been adopted in helium-filled 10 terabyte HDDs, which represent the world's highest storage capacity*. The 3.5-inch HD media adopted this time have storage capacity of 1.3-1.5TB per platter, using the eighth-generation PMR technology. HDDs are now increasingly used in data centers, reflecting exponential growth in data in line with the progress of cloud computing. Compared with unsealed PMR HDDs, helium-filled HDDs help reduce power consumption. Thus helium-filled HDDs will be used more and more in data centers.

*As of December 11, 2015 (To the best of SDK's knowledge)

- Baotou Showa Rare Earth High-Tech New Material to be dissolved

In July 2015, SDK decided to dissolve its consolidated subsidiary Baotou Showa Rare Earth High-Tech Material Co., Ltd. (BSR) located in Baotou, Inner Mongolia, China. BSR had been producing rare earth materials from mines in China, producing magnetic alloy and selling that to Japanese and Chinese markets since its establishment. However, since 2012, when the Chinese government terminated export duty exemption for rare earth magnetic alloy, BSR's sales to customers in Japan had been significantly reduced. Thus SDK and its partners decided to dissolve BSR. SDK will concentrate its production and sale of rare earth magnetic alloy in China into Ganzhou Zhaori Rare Earth New Materials Co., Ltd. (GSR). SDK will aim to accelerate development of new-generation rare earth magnetic alloy, and strengthen its sales activities in China.

[Inorganics segment]

- Starting commercial operation of a new chemical alumina plant in Indonesia

In February 2015, PT. Indonesia Chemical Alumina, a joint corporation owned by SDK and PT. ANTAM (Persero) Tbk, of Indonesia, started commercial operation of its new chemical alumina plant established in the Tayan District, West Kalimantan, Indonesia. Chemical alumina is used for various industrial applications including electronic materials, chemicals for water treatment, abrasives, and thermal conductive fillers.

- Photocatalyst "*LUMI-RESH*™" now used in Shikibo Ltd.'s high-functioning fiber

In November 2015, visible-light-reactive photocatalyst *LUMI-RESH*™, which was developed by Showa Denko Ceramics Co., Ltd., a subsidiary of SDK, started to be applied to Shikibo Ltd.'s "*TINTA*™ V" high-functioning fiber for linen products. Generally, fluorescent dyestuffs are used to finish white linens. Application of photocatalyst to linens had a problem that the photocatalyst lessens its effects after treatment with fluorescent dyestuffs. However, it was confirmed that *LUMI-RESH*™ keeps its effect even after treatment with fluorescent dyestuffs. Thus Shikibo decided to adopt *LUMI-RESH*™. When rays of light strike photocatalyst, that photocatalyst catalyzes water vapor and oxygen in the air, and generates active oxygen, which inactivates bacteria and viruses adhering to surfaces of substances containing the photocatalyst. Unlike conventional photocatalysts, *LUMI-RESH*™ can be highly activated by visible low-energy light emitted by indoor lighting apparatus including fluorescent lights and LEDs.

[Aluminum segment]

- Expansion of high-purity aluminum foil plant in China

In April 2015, Showa Denko Aluminum (Nantong) Co., Ltd. (SDAN), a consolidated subsidiary of SDK, completed construction work to expand its capacity to produce high-purity aluminum foil for high-voltage use* to be applied to aluminum electrolytic capacitors from 400 tons per month to 600 tons per month, and started its commercial operation. Aluminum electrolytic capacitors are used in wide areas such as electric appliances, IT devices, electric vehicles, and hybrid cars. Especially in China, the demand for medium- and high-voltage electrolytic capacitors is increasing in applications including environment friendly cars and power conditioners for solar power generation. SDK will continue strengthening of SDAN as a base to provide our customers in China with high-purity aluminum foil for high-voltage use in a timely manner.

*High-purity aluminum foil for high-voltage use is electrolytic foil made from 99.99% purity of aluminum or higher, and has a withstanding voltage of 200V or higher.

- Starting supply of cans for coffee beverages with milk

Showa Aluminum Can Corporation, a subsidiary of SDK, set up a new facility to produce aluminum cans for coffee beverages in its Oyama Plant located in Tochigi Prefecture, and started its commercial operation. The scale of domestic market for cans to be used to contain coffee beverages is about 10 billion cans per year, most of which were made of steel in the past. In 2014, the self-restraint guideline set by the beverage makers' association was changed to allow use of aluminum cans to contain coffee with milk. Aluminum cans are expected to increase its share in the coffee beverage container market because aluminum cans are of lighter weight and recycle-friendly.

- Establishing integrated aluminum can production system in Vietnam

Hanacans Joint Stock Company, of Vietnam, a subsidiary of SDK, newly constructed can-end production lines and went into quantity production of can-ends in October 2015.

This time, through the introduction of the new facilities, Hanacans established an integrated system to produce cans and can-ends, and will achieve further quality improvement and stable production in its whole product lines. In August 2015, Hanacans was successfully certified that it meets FSSC 22000, which is an international standard for food safety management system. Since the acquisition by the Showa Denko Group in May 2014, Hanacans has been successfully increasing its sales in Vietnam by introducing Showa Aluminum Can Corporation's advanced manufacturing technology and latest quality management system. The demand for canned beer in Vietnam increases about 10% every year, as a result of the rise in the standard of living. The Showa Denko Group aims to expand its aluminum beverage can business in Vietnam through stable and speedy supply of products that meet customers' requirement for quality.

[Others segment]

- Offering SiC epitaxial wafers with very low defect density

SDK developed a new grade of silicon carbide (SiC) epitaxial wafers for power devices with very low defect density. In October 2015, SDK started commercial shipments of the new grade, in two different sizes of four inches and six inches in diameter, under the trade name of "High-Grade Epi" (HGE). Power modules for high-voltage, high-current applications mainly contain devices with the structure of SBD (Schottky barrier diode) and transistors with the structure of MOSFET (metal-oxide-semiconductor field-effect transistor). While SiC is increasingly used in SBD, reduction of defects in SiC epitaxial wafers was a matter to be solved in order to realize use of SiC in MOSFET. In the new product "HGE," SDK has succeeded in significantly reducing defect density by controlling the number of surface defects (SD) within one-third the current level of SDK's conventional product and of basal plane dislocation (BPD) within one-hundredth compared with conventional product. As a result, it is now possible to eliminate device defects attributable to BPD. SDK believes that the new product will realize practical application of SiC-MOSFET and greatly contribute to the commercialization and market expansion of "full-SiC" power modules. When compared with the mainstream silicon-based semiconductors, SiC-based power devices can operate under high-temperature, high-voltage, and high-current conditions, while substantially reducing energy loss. These features enable the production of smaller, lighter, and more energy-efficient next-generation power control modules. SiC power devices are already used as power sources of servers, distributed power supply systems for new energies, and in railcars. Demand for SiC power devices as onboard equipment is expected to grow further. Moreover, efforts are under way to develop SiC-based ultra-high-voltage devices for use in power generation/transmission systems. SDK will continue its efforts to meet requirements for higher quality, contributing toward expansion of the market.

- Introduction of plant growth system including *SHIGYO*™ Unit is in progress

"*SHIGYO*™ Method," which is a proprietary high-speed plant growth technology jointly developed by SDK and National University Corporation Yamaguchi University, and "*SHIGYO*™ Unit," which is a solution package for plant factories including LED lighting equipment, heat insulation panels and other necessary equipment, have been adopted by Kyoei Kogyo Co., Ltd., and will be applied to its large-scale plant factory to be established in Mino City, Gifu Prefecture. The new plant is scheduled to be completed in April 2016. Moreover, SDK's proprietary LED illuminant for plant factories and aluminum stands have been adopted by Sekishin Electric Co., Ltd. and Sony Business Solutions Corporation, and applied to a jointly developed LED lighting system to accelerate growth of natural grass in stadiums. The LED illuminant adopted this time includes our proprietary LED chips that emit deep-red light optimum for plant's photosynthesis at the world's highest level of efficiency and LED chips that emit blue light. Thus the LED illuminant efficiently accelerates photosynthesis by grass, while contributing to reduction of electricity consumption. Our light-weight aluminum stands contribute to reduction of load on grass. SDK will further promote development of technologies for plant growth, aiming to promote dissemination of plant growth system that realizes stable supply of safe vegetables and fast growth of plant.

(4) Projections for 2016

a) Overall performance forecast

In 2016, the Japanese economy is expected to continue gradual recovery. While the influence of business slowdown in economies of emerging countries upon export and production activities of Japan is expected be recognized, consumer spending will show steady change due to improvement in employment environment and personal income environment, and corporate profits are expected to have improving trend. As for overseas economies, the US economy will continue to recover due to firm consumer spending on the background of improving employment environment. The European economy will have a risk of business slowdown due to unstable factors including the turmoil in Greece and the refugee issue, though Germany, the United Kingdom and some other countries are expected to show mild recovery. It is feared that the Chinese economy will continue to show business slowdown, and influence ASEAN economies to show further slowdown trend. There will be such downward risk factors for the global economy as the possible downturn trend in economies of resource producing countries and emerging countries due to the sluggish market prices of natural resources and unstable exchange rates. Thus the business environment will remain severe.

Under these circumstances, the Showa Denko Group started new medium-term consolidated business plan “Project 2020+” in January 2016. With this new business plan, the Showa Denko Group will focus on expansion of “individualized businesses” which are expected to maintain high-level profitability and stability, and find the way of these businesses into the global market. We will also reform our business model and improve earning power of existing businesses. In this way, we will strengthen our revenue base, control fluctuation in profit, and enhance our corporate value.

The Group’s performance forecast for 2016 is as follows.

(Unit: millions of yen)

	Results for the term ended Dec. 31, 2015	Forecast for the term ending Dec.31, 2016	Increase/ decrease	Rate of change (%)
Net sales	775,732	765,000	-10,732	-1.4
Operating income	33,508	36,000	2,492	7.4
Ordinary income	32,050	31,000	-1,050	-3.3
Profit attributable to owners of parent	921	20,000	19,079	2,071.7

The above forecast is based on the assumption that the exchange rate will be ¥119 to the U.S. dollar and that the naphtha price will be ¥42,200/KL.

b) Net sales and operating income by business segment

[Net sales]

(Unit: millions of yen)

	Results for the term ended Dec. 31, 2015	Forecast for the term ending Dec. 31, 2016	Increase/ decrease
Petrochemicals	231,288	211,000	-20,288
Chemicals	142,292	144,000	1,708
Electronics	131,492	121,000	-10,492
Inorganics	63,476	67,000	3,524
Aluminum	100,756	102,000	1,244
Others	147,233	162,000	14,767
Adjustments	-40,805	-42,000	-1,195
Total	775,732	765,000	-10,732

[Operating income]

(Unit: millions of yen)

	Results for the term ended Dec. 31, 2015	Forecast for the term ending Dec. 31, 2016	Increase/ decrease
Petrochemicals	10,543	12,000	1,457
Chemicals	10,707	13,000	2,293
Electronics	17,472	15,500	-1,972
Inorganics	-1,249	-2,000	-751
Aluminum	2,563	3,500	937
Others	1,329	2,000	671
Adjustments	-7,857	-8,000	-143
Total	33,508	36,000	2,492

The above forecast is based on the information available as of February 10, 2016 and our assumptions as of the same date about risk factors that could affect our future performance. Actual results may differ materially due to a variety of reasons.

2. Financial conditions for the January 1 – December 31, 2015 period

a) Total assets at the end of the year amounted to ¥940,494 million, a decrease of ¥69,349 million from the level at December 31, 2014. Total assets were down due partly to the decrease in accounts receivable-trade and inventory, reflecting falls in material and fuel prices. Interest-bearing debt decreased ¥14,289 million, to ¥368,835 million. Total liabilities decreased ¥58,403 million, to ¥632,352 million, due partly to the decrease in interest-bearing debt and accounts payable-trade. Net assets at the end of the year amounted to ¥308,142 million, down ¥10,945 million, owing partly to the decrease in minority interests due to the posting of extraordinary loss in Shoko Co., Ltd., though we recorded net income.

b) Cash flows in 2015

Net cash provided by operating activities decreased ¥5,826 million from the previous year, to ¥61,170 million, due partly to the decrease in notes and accounts payable-trade, despite the increase in operating income. Net cash used in investing activities decreased ¥4,379 million, to ¥42,497 million, due partly to the purchase of investments in subsidiaries resulting in change in scope of consolidation. Thus, free cash flow ended up in the proceeds of ¥18,674 million, a decrease of ¥1,446 million.

Net cash used in financing activities decreased ¥3,520 million due to the rebound of the purchase of preferred securities and repurchase of own shares in the previous year, despite the fall in interest-bearing debt, and ended up in the payment of ¥21,336 million. As a result, and due partly to the influence of exchange rate fluctuations, cash and cash equivalents at December 31, 2015 decreased ¥565 million, to ¥54,597 million.

c) Projections for 2016

Cash flows from operating activities will increase. As for net cash used in investing activities, payment will increase. Thus, free cash flow for 2016 is expected to decrease by around ¥2,700 million from ¥18,674 million in 2015, to the proceeds of approximately ¥16,000 million. Interest bearing debt at the end of the year will be around ¥370,000 million, up around ¥1,200 million.

d) Trends in cash flow indexes

	2012	2013	2014	2015
Equity ratio	29.2%	30.6%	29.7%	31.5%
Equity ratio on a market value basis	21.0%	22.6%	21.1%	21.6%
Debt maturity (years)	6.4	5.6	5.7	6.0
Interest coverage ratio	11.3	15.6	15.6	14.9

[Notes]
Equity ratio: Equity / Total assets
Equity ratio on a market value basis: Total market value of listed shares / Total assets
Debt maturity (years): Interest-bearing debt / Cash flows from operating activities
Interest coverage ratio: Cash flows from operating activities / Interest payment

- Each index is calculated by relevant formulas with financial figures quoted from the consolidated financial statements.
- Equity is calculated by deducting minority interests from total net assets.
- Total market value of listed shares is calculated by multiplying the closing share price at the year-end by the number of shares issued, after deducting treasury stock.
- As to the cash flows, the amount of “cash flows from operating activities” in the consolidated cash flow statement is used.
- “Interest-bearing debt” refers to loans payable, commercial paper, and bonds as listed among liabilities on the consolidated balance sheet.
- As to the interest payment, the amount of “interest expense” in the consolidated cash flow statement is used.

3. Basic policy regarding appropriation of the Company’s profits; dividends for 2015/2016

The Company considers the payment of dividends as an important obligation to its shareholders. The Company’s basic policy is to decide on dividends after consideration of the profit level for the term and the needs for internal reserve for use in future business expansions, while setting a target of 30% as payout ratio. The Company appropriates retained earnings preferentially to capital investment to accelerate growth of promising businesses, R&D expenses, and improvement of financial standing, which will contribute to continuous expansion of profit. As to appropriation of profits for 2015, the Company is planning to pay dividends of ¥3 per share. For 2016, the Company is planning to pay dividends of ¥3 per share.

SDK will consolidate every ten shares of its common stock into one share on July 1, 2016. However, the above numbers are calculated on the basis of the number of outstanding shares before this consolidation.

4. Operational and other risks

We consider we face the risks, as explained below, that could adversely affect our future performance, financial conditions, and cash flows. The Showa Denko Group is taking steps to prevent the realization of these risks and minimize impact on its operations. The following covers important risk factors considered being present as of this February 10, 2016. This list is not inclusive.

(1) Substantial fluctuations in the performances of individual businesses

The Group is manufacturing and selling a wide variety of products, such as petrochemicals, chemicals, electronics, inorganics, and aluminum. The following risks are expected in major business fields, but those are not limited to the businesses mentioned below.

① Petrochemicals

The Group purchases and imports a large amount of feedstock, including naphtha. When the price of naphtha or other types of feedstock fluctuates due to a change in crude oil prices, a change in supply-demand balance, or a currency fluctuation, and when we cannot secure sufficient spreads between the manufacturing cost and selling prices of products, the Group's performance and financial conditions can be affected. Furthermore, earnings from petrochemicals largely depend on the supply-demand balance. Construction of large plants by competitors and resultant oversupply as well as a sharp decrease in demand due to unfavorable changes in the Japanese or world economies can affect the Group's performance and financial conditions.

② Aluminum

The Group imports a large amount of aluminum ingots from overseas sources. When the aluminum ingot price rises due to a rise in LME prices, a rise in premium on aluminum, or a weaker yen, and when we cannot absorb the manufacturing cost increase in the form of higher product prices, the Group's performance and financial conditions can be affected. Furthermore, most of our products are sold as materials and components for the automobile, electric appliance, and electronics sectors. Trends of those industries, which are beyond our control, can substantially affect such businesses.

③ HD media

In the Group's HD media business, the sales volume is largely influenced by demand for electric appliances and IT devices. The business requires innovations at a rapid pace and involves fierce international competition. Fluctuations in demand and intensification of competition will cause fluctuations in selling prices. The Group is prepared to develop and provide products meeting the market requirements and has established a global production/marketing setup. However, when customer requirements change more quickly than we expected, when supply-demand balance changes substantially, and when exchange rates sharply fluctuate, the Group's performance and financial conditions can be affected.

④ Overseas operations

The Group is producing and selling in Asia, North America, and Europe. Operations overseas involve such special risks as unexpected changes in laws and regulations, deterioration in political/economic situations, and social disorder due to war and terrorism. Such risks can become real and affect our overseas operations, resulting in adverse impact on the Group's performance and financial conditions.

(2) Unexpected fluctuations in financial conditions and cash flows

① Substantial fluctuations in exchange rates

As for foreign-currency-based transactions centering on exports/imports, the Group makes its best efforts to minimize relevant exchange rate fluctuation risks, mainly through forward exchange contracts. However, substantial fluctuations in exchange rates can affect the Group's performance and financial conditions. In particular, a sharp appreciation of the yen against other currencies can adversely affect the Group's performance. Exchange rate fluctuations can also affect the Group's performance and financial conditions through the conversion of overseas subsidiaries' financial statements into Japanese yen.

② Trends in financial markets and changes in the fund-raising environment

The trends in the financial markets and deterioration in the Group's financial indexes can affect the Group's fund-raising and interest expenses: for example, in the form of prompt repayment of a loan owing to the terms of financial covenants. In that event, the Group's performance and financial conditions could be affected.

③ Employees' severance indemnities

The Group's employees' severance indemnities and expenses are calculated based on various basic rates and the yield of pension assets used in pension calculations. Fluctuations in the current price of pension assets, trends in interest rates, and changes in the retirement benefit/pension systems can affect the Group's performance and financial conditions.

④ Securities

As the Group owns securities with current prices, fluctuations in stock prices can result in valuation losses, affecting the Group's performance and financial conditions.

⑤ Accounting for impairment of fixed assets

The Group has adopted the accounting standard regarding the impairment of fixed assets. The Group may incur additional losses from the impairment of fixed assets as a result of future changes in the current prices of land and other fixed assets or a substantial change in the business environment.

⑥ Deferred tax assets

The Group's financial statements include deferred tax assets in relation to temporary differences (differences between the assets/liabilities on the consolidated financial statements and the assets/liabilities in calculation of taxable income). The calculation of deferred tax assets is based on various projections for future taxable income. Thus, when actual taxable income differs from the projections or in case of a revision of the taxation system (including tax rates), it becomes necessary to revise deferred tax assets. That situation could affect the Group's performance and financial conditions.

(3) Specific regulations

The Group's businesses are subject to various restrictions as stipulated by laws and regulations. The restrictions relate to industrial safety (such as the Law for Prevention of Disasters at Petroleum Complexes, Etc.; the Fire Service Law; and the High Pressure Gas Safety Law) and the environment and chemical substances (such as the Basic Environment Law; the Air Pollution Control Law; and the Law concerning the Examination and Regulation of Manufacture, Etc. of Chemical Substances). The Group observes these laws and regulations as it conducts its respective businesses. In the event the Group fails to observe any of the laws and regulations, the Group's activities could be restricted. In case stricter regulations are introduced, resulting in higher costs, the Group's performance and financial conditions can be affected.

(4) Important lawsuits

While the Group makes its best efforts to observe laws and agreements, the Group may be sued as it conducts its wide-ranging businesses.

(5) Others

① R&D

Making "Create new value by forging, polishing, and linking diverse individualized technologies." as its basic policy in R&D, the Group concentrates its R&D resources upon research and business development that leads to strengthening of its core businesses and expansion of businesses in their surrounding fields. On the other hand, the Group also strives to create next generation businesses that make the most of open innovation and M&A. Through strengthening of its core technologies that covers such diverse fields as inorganics, organics and aluminum, and achievement of synergies among these technologies, the Group promotes its R&D programs that aim to create individualized products, technologies, and high-value-added businesses. However, in case the actual results materially differ from original plans, the Group's performance and financial conditions could be affected.

② Intellectual property

The Group is making its best efforts to obtain, use, and protect intellectual property, such as industrial property rights and know-how, in recognition of their ability to make the Group's businesses more competitive. The Group also respects other companies' rights. However, in the event of failure to duly obtain or use the rights, infringement by a third party, or if the Group is considered to have infringed a third party's intellectual property, the Group's operations can be hindered and the Group's performance and financial conditions could be affected.

③ Quality assurance and product liability

The Group has established its internal rules on quality assurance and quality control, as well as organizations for managing and promoting quality assurance. Furthermore, the Group has obtained certification under ISO 9001 standards to ensure strict quality control. However, in the event of a serious quality defect or being sued for product liability, the Group's reputation could be damaged and the Group may be forced to pay compensation to customers. This could affect the Group's performance and financial conditions.

④ Accidents and disasters

The Group is committed to securing steady and safe operations. The Group conducts regular inspections of all manufacturing facilities in an effort to minimize any risk factors pertaining to the suspension of operations or accidents due to problems with manufacturing facilities. In the event of injury or damage to property due to an accident, a large-scale natural disaster, etc., the Group's reputation could be damaged. The Group may incur substantial costs in dealing with the situation and may lose business opportunities due to the suspension of production. This could affect the Group's performance and financial conditions. Furthermore, even when the Group's manufacturing facilities are not directly influenced, the Group's production activities may be restricted by trouble with procurement or disruption of supply chains due to accidents at suppliers' sites or a natural disaster, or by a shortage of power supply. These factors could affect the Group's performance and financial conditions.

⑤ Impact on environment

The Group is committed to the principles of Responsible Care, which means that we are working to ensure the health and safety of everyone and to protect the environment from harm caused by chemical substances throughout their life cycles, namely, the development, production, distribution, use, and disposal. In the event of causing impact on the environment, the Group's reputation can be damaged. The Group may incur costs, including compensation, lose business opportunities due to the suspension of production, and/or pay compensation to customers. These factors can affect the Group's performance and financial conditions.

5. Management Policy

(1) Showa Denko's basic management policy

(Vision)

We at the Showa Denko Group will provide products and services that are useful and safe and exceed our customers' expectations, thereby enhancing the value of the Group, giving satisfaction to our shareholders, and contributing to the sound growth of international society as a responsible corporate citizen.

(Our Code of Conduct)

1) We will act with integrity as a responsible citizen of the international society.
2) We will provide our customers with satisfaction and safety.
3) We will develop corporate culture that helps every member of the Group to fully display his/her ability.
4) We will meet the expectations of local communities.
5) We will make vigorous efforts to maintain and improve the global environment.

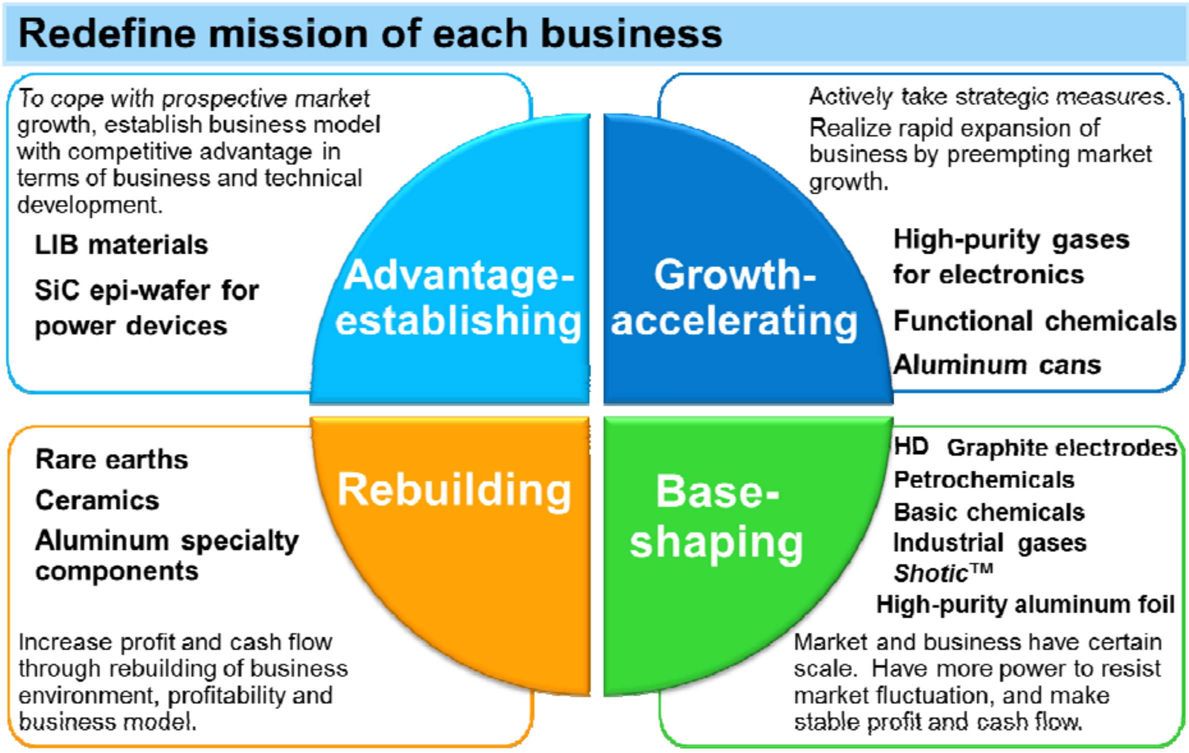
(2) Medium to long-term business strategy

1) Starting new medium-term consolidated business plan "Project 2020+"

In January 2016, The Showa Denko Group started its new medium-term consolidated business plan "Project 2020+." Under this new business plan, the Group will expand and strengthen its "individualized businesses," which are expected to maintain their high-level profitability and stability, and promote these businesses in the global market. The Group will enhance its capability to resist fluctuation in market prices by providing customers with attractive products and services and holding many businesses that have top shares in the competitive markets of global or certain scale. Moreover, the Group will reform its business model, and improve its existing businesses' earning power. Thus the Group will enhance its corporate value.

2) Basic strategy under "Project 2020+"

The Group will aim to contribute to the solution of social issues in global scale by providing high-value-added products, technology and services to five market domains, namely, "Infrastructure," "Energy," "Mobility," "Living Environment," and "Electronics." In the business portfolio we aim to realize, we now classify our businesses into four categories: "Growth-accelerating," "Advantage-establishing," "Base-shaping," and "Rebuilding." We define missions for each business category in order to strengthen our businesses. We will further strengthen earning power of our existing businesses by reforming business models, and also promote M&A and business alliances with other companies aiming to introduce new growth businesses from outside entities. In addition, aiming to promote globalization of our business activities and expand our "Individualized businesses" further, we will implement strategic capital investment in growing Asian/ASEAN market, and also pursue growth opportunities in developed countries in Europe and North America.



Business portfolio in Project 2020+

a) Growth-accelerating businesses
This category includes high-purity gases for electronics, functional chemicals, and aluminum cans businesses. In this business category, we will positively take strategic measures to take advantage of growing overseas markets including Asian and ASEAN markets, and achieve fast expansion of these businesses.

b) Advantage-establishing businesses
This category includes lithium-ion battery (LIB) materials, and SiC epitaxial wafer for power devices businesses. In this business category, we will establish business models with competitive advantages in terms of business operation and technology development, since the markets for these two businesses are expected to have rapid growth in the near future.

c) Base-shaping businesses
This category includes hard disk (HD) media, graphite electrodes, petrochemicals, and some other businesses. These businesses are expected to keep certain scales in terms of market and business operation. Therefore, we will make these businesses have more power to resist fluctuation in market prices and earn stable profit and cash flow.

d) Rebuilding businesses
In this business category, we will increase profit and cash flow earned by these businesses by rebuilding their competitive environment, profitability and business models.

e) Capital investment plan
We will carry out capital investment amounting to ¥130 billion during three years from

2016 to 2018. We will invest strategically, centering in Growth-accelerating and Advantage-setting businesses. Moreover, in the market domains of Energy and Living Environment, we will reduce GHG emission and strengthen resource-recycling businesses through investment in businesses that promote recycling, including recycling of used plastic, and investment in businesses that promote counter measures against global warming, including energy/electricity saving and introduction of latest-type hydropower generation facilities.

f) R&D strategy

In order to solve social issues and create new value concerning the five market domains of Infrastructure, Energy, Mobility, Living Environment, and Electronics, we will promote our original R&D programs by deepening and fusing various elements including our diverse business domains, “Core technologies” which are elemental technologies with competitive advantages, and “Strategic technologies” which are world-top-level technologies we cultivated over many years. During the three year period from 2016 to 2018, we will invest ¥60 billion in our R&D activities. Thus we will intensively input our business resources into R&D activities related to strengthening of our core businesses and expansion of businesses in their surrounding fields. We will also promote utilization of open innovation and M&A, aiming to create next-generation business themes that lead to the prosperity of the Showa Denko Group in the future.

(3) Financial goals

Under the new medium-term consolidated business plan “Project 2020+,” the Group set its financial goals as follows.

Financial goals of the Group for 2018*

Net sales	¥855 billion
Operating income	¥57 billion
Operating income/Net sales	6.7%
FCF**	¥68 billion
ROA	6.0%
ROE	9.0%
D/E ratio	1.0 times

*Announced on December 11, 2015
**Cumulative: 2016-2018

6. Tasks to be accomplished

While rapid economic growth in emerging countries is bringing about the rise in living standards, there is increasing need for concerted efforts to reduce impacts on the global environment. This social trend is producing new market needs. Specifically, demand is growing for compact electronic devices with higher quality, speed, and capacity, which will lead to more convenience and comfort. Furthermore, new technologies are needed to realize a healthy and safe society through various environmental protection measures, including those against global warming. And the security of energy supply should be achieved through reductions in dependence on fossil fuels and conservation of energy.

We will provide components, materials, and solutions in these areas based on our advanced and proprietary technologies, and contribute toward creating a society where affluence and sustainability are harmonized.

Moreover, we will continue to enhance corporate governance in order to ensure sound, effective and transparent management, as well as to really become “a company that contributes to the sound growth of society,” which continuously improves its own corporate value and consequently is trusted and appreciated by society. Aiming to achieve these goals, the Showa Denko Group established “Basic Policy on Corporate Governance” in December 2015.

The world economy is undergoing drastic changes in the market structure. Under the new medium-term consolidated business plan “Project 2020+” started in January 2016, the Group will expand and strengthen its “individualized businesses,” which are expected to maintain their high-level profitability and stability, and promote these businesses in the global market. Aiming to promote its expansions in overseas markets, the Group will strive to take growth opportunities not only in rapidly growing Asian/ASEAN market but also in the markets of developed countries in Europe and North America, and will provide sophisticated high-performance products and technologies. Thus, we will continue meeting customer requirements and social needs.

7. Our view on selection of accounting standard

The Group executes its consolidated financial statements in accordance with the Japanese standards. We judge our financial statements appropriately indicate the Group’s financial conditions and business performances. As for IFRS, we will continue carefully observing movements and trends of the standard and its system.

Consolidated Balance Sheets

(¥ in millions, US$ in thousands)

	Dec. 31, 2014	Dec. 31, 2015	Dec. 31, 2015
Assets	¥	¥	$
Current assets			
Cash and deposits	66,840	64,054	531,084
Notes and accounts receivable-trade	155,802	135,077	1,119,946
Merchandise and finished goods	57,913	48,660	403,450
Work in process	14,750	14,692	121,817
Raw materials and supplies	50,937	42,573	352,984
Deferred tax assets	4,244	3,029	25,112
Other	29,384	24,319	201,635
Allowance for doubtful accounts	(1,509)	(880)	(7,293)
Total current assets	378,360	331,525	2,748,733
Noncurrent assets			
Property, plant and equipment			
Buildings and structures, net	85,948	81,529	675,970
Machinery, equipment and vehicles, net	119,924	112,940	936,407
Tools, furniture and fixtures, net	7,392	7,313	60,634
Land	254,116	251,851	2,088,143
Construction in progress	47,445	48,660	403,451
Total property, plant and equipment	514,824	502,293	4,164,605
Intangible assets			
Other	13,351	12,268	101,715
Total intangible assets	13,351	12,268	101,715
Investments and other assets			
Investment securities	76,113	76,568	634,842
Net defined benefit asset	20	19	158
Deferred tax assets	15,563	8,877	73,598
Other	12,966	24,809	205,692
Allowance for doubtful accounts	(1,355)	(15,864)	(131,530)
Total investments and other assets	103,307	94,409	782,760
Total noncurrent assets	631,483	608,970	5,049,080
Total assets	1,009,843	940,494	7,797,813
Liabilities			
Current liabilities			
Notes and accounts payable-trade	127,206	103,737	860,106
Short-term loans payable	71,519	69,000	572,096
Current portion of long-term loans payable	70,486	49,386	409,471
Commercial papers	5,000	12,000	99,494
Current portion of bonds	10,000	10,000	82,912
Accounts payable-other	68,319	62,063	514,573
Provision for repairs	61	62	515
Provision for bonuses	2,135	1,904	15,783
Provision for business structure improvement	769	83	689
Provision for Niigata Minamata Disease	137	126	1,045
Other	25,325	22,732	188,474
Total current liabilities	380,958	331,093	2,745,157
Noncurrent liabilities			
Bonds payable	35,000	35,000	290,192
Long-term loans payable	191,119	193,449	1,603,920
Deferred tax liabilities	3,453	3,873	32,115
Deferred tax liabilities for land revaluation	39,841	35,893	297,597
Provision for repairs	633	1,377	11,418
Provision for business structure improvement	—	475	3,938
Net defined benefit liability	22,115	15,185	125,904
Other	17,637	16,006	132,708
Total noncurrent liabilities	309,798	301,259	2,497,791
Total liabilities	690,755	632,352	5,242,948
Net assets			
Shareholders' equity			
Capital stock	140,564	140,564	1,165,438
Capital surplus	62,221	62,221	515,886
Retained earnings	56,896	55,202	457,691
Treasury stock	(10,153)	(10,157)	(84,215)
Total shareholders' equity	249,527	247,829	2,054,800
Accumulated other comprehensive income			
Valuation difference on available-for-sale securities	6,783	3,927	32,559
Deferred gains or losses on hedges	1,262	(326)	(2,702)
Revaluation reserve for land	27,908	31,307	259,570
Foreign currency translation adjustment	19,018	18,611	154,307
Remeasurements of defined benefit plans	(4,899)	(4,835)	(40,092)
Total accumulated other comprehensive income	50,072	48,683	403,643
Minority interests	19,488	11,629	96,421
Total net assets	319,087	308,142	2,554,865
Total liabilities and net assets	1,009,843	940,494	7,797,813

Consolidated Statements of Income

(¥ in millions, US$ in thousands)

	Results for the year ended Dec.31 2014 and 2015		
	2014	2015	2015
	¥	¥	$
Net sales	872,785	775,732	6,431,739
Cost of sales	764,153	653,924	5,421,809
Gross profit	108,632	121,808	1,009,929
Selling, general and administrative expenses	88,081	88,299	732,107
Operating income	20,551	33,508	277,823
Non-operating income			
Interest income	224	250	2,071
Dividends income	3,492	1,673	13,868
Equity in earnings of affiliates	1,212	1,917	15,892
Rent income on noncurrent assets	1,628	1,613	13,372
Subsidy income	373	1,266	10,500
Foreign exchange gains	4,431	—	—
Miscellaneous income	1,241	1,343	11,133
Total non-operating income	12,601	8,061	66,835
Non-operating expenses			
Interest expenses	4,546	4,077	33,806
Loss on mothballing of operation	2,947	1,710	14,182
Miscellaneous expenses	3,928	3,732	30,940
Total non-operating expenses	11,421	9,520	78,928
Ordinary income	21,731	32,050	265,730
Extraordinary income			
Gain on sales of investment securities	2,986	8,056	66,796
Other	504	335	2,776
Total extraordinary income	3,490	8,391	69,572
Extraordinary loss			
Loss on sales and retirement of noncurrent assets	4,208	4,080	33,831
Impairment loss	4,784	10,678	88,533
Provision of allowance for doubtful accounts	—	13,404	111,136
Other	7,672	6,215	51,526
Total extraordinary losses	16,664	34,377	285,026
Income before income taxes and minority interests	8,557	6,064	50,276
Income taxes	6,833	13,962	115,762
Income (loss) before minority interests	1,723	(7,898)	(65,487)
Minority interests in income (loss)	(1,206)	(8,819)	(73,123)
Net income	2,929	921	7,636

Consolidated Statements of Comprehensive Income

(¥ in millions, US$ in thousands)

	Results for the year ended Dec.31 2014 and 2015		
	2014	2015	2015
	¥	¥	$
Income (loss) before minority interests	1,723	(7,898)	(65,487)
Other comprehensive income:			
Valuation difference on available-for-sale securities	867	(3,212)	(26,632)
Deferred gains or losses on hedges	1,016	(1,421)	(11,781)
Revaluation reserve for land	—	3,779	31,334
Foreign currency translation adjustments	12,797	(2,320)	(19,237)
Remeasurements of defined benefit plans, net of tax	—	9	75
Share of other comprehensive income of entities accounted for using equity method	138	119	984
Total other comprehensive income	14,817	(3,046)	(25,258)
Comprehensive income	16,540	(10,945)	(90,745)
(Comprehensive income attributable to)			
Comprehensive income attributable to owners of parent	17,049	(1,661)	(13,768)
Comprehensive income attributable to minority interests	(509)	(9,284)	(76,976)

Consolidated Statements of Changes in Net Assets

For the year ended December 31, 2014 (¥ in millions)

	Shareholders' equity					Valuation and translation adjustments							
	Capital stock	Capital surplus	Retained earnings	Treasury stock	Total shareholders' equity	Valuation difference on available-for-sale securities	Deferred gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total valuation and translation adjustments	Minority interests	Total net assets
Balance at December 31, 2013	140,564	62,221	58,414	(149)	261,050	5,850	105	27,923	6,284	-	40,161	44,599	345,811
Cumulative effects of changes in accounting policies	-	-	-	-	-	-	-	-	-	-	-	-	-
Restated balance at December 31, 2013	140,564	62,221	58,414	(149)	261,050	5,850	105	27,923	6,284	-	40,161	44,599	345,811
Changes of items during the period													
Dividends from surplus			(4,490)		(4,490)								(4,490)
Net income			2,929		2,929								2,929
Purchase of treasury stock				(10,005)	(10,005)								(10,005)
Disposal of treasury stock		(0)		0	0								0
Increase by increase of consolidated subsidiaries			475		475								475
Decrease by increase of consolidated subsidiaries			(443)		(443)								(443)
Reversal of revaluation reserve for land			14		14								14
Others			(4)		(4)								(4)
Net changes of items other than shareholders' equity						934	1,158	(14)	12,733	(4,899)	9,911	(25,112)	(15,201)
Total changes of items during the period	-	(0)	(1,518)	(10,004)	(11,523)	934	1,158	(14)	12,733	(4,899)	9,911	(25,112)	(26,723)
Balance at December 31, 2014	140,564	62,221	56,896	(10,153)	249,527	6,783	1,262	27,908	19,018	(4,899)	50,072	19,488	319,087

For the year ended December 31, 2015 (¥ in millions)

	Shareholders' equity					Total accumulated other comprehensive income							
	Capital stock	Capital surplus	Retained earnings	Treasury stock	Total shareholders' equity	Valuation difference on available-for-sale securities	Deferred gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total valuation and translation adjustments	Minority interests	Total net assets
Balance at December 31, 2014	140,564	62,221	56,896	(10,153)	249,527	6,783	1,262	27,908	19,018	(4,899)	50,072	19,488	319,087
Cumulative effects of changes in accounting policies			29		29					2,668	2,668		2,697
Restated balance at December 31, 2014	140,564	62,221	56,925	(10,153)	249,556	6,783	1,262	27,908	19,018	(2,231)	52,740	19,488	321,784
Changes of items during the period													
Dividends from surplus			(4,285)		(4,285)								(4,285)
Net income			921		921								921
Purchase of treasury stock				(5)	(5)								(5)
Disposal of treasury stock		0		0	0								0
Increase by increase of consolidated subsidiaries			1,084		1,084								1,084
Decrease by increase of consolidated subsidiaries			(304)		(304)								(304)
Decrease by decrease of consolidated subsidiaries			(225)		(225)								(225)
Increase by increase of associates accounted for using equity method			637		637								637
Reversal of revaluation reserve for land			355		355								355
Others			93		93								93
Net changes of items other than shareholders' equity						(2,856)	(1,588)	3,398	(407)	(2,604)	(4,057)	(7,858)	(11,915)
Total changes of items during the period	-	0	(1,723)	(4)	(1,727)	(2,856)	(1,588)	3,398	(407)	(2,604)	(4,057)	(7,858)	(13,642)
Balance at December 31, 2015	140,564	62,221	55,202	(10,157)	247,829	3,927	(326)	31,307	18,611	(4,835)	48,683	11,629	308,142

For the year ended December 31, 2015 (US$ in thousands)

	Shareholders' equity					Total accumulated other comprehensive income							
	Capital stock	Capital surplus	Retained earnings	Treasury stock	Total shareholders' equity	Valuation difference on available-for-sale securities	Deferred gains or losses on hedges	Revaluation reserve for land	Foreign currency translation adjustment	Remeasurements of defined benefit plans	Total valuation and translation adjustments	Minority interests	Total net assets
Balance at December 31, 2014	1,165,438	515,886	471,733	(84,180)	2,068,878	56,241	10,465	231,393	157,679	(40,619)	415,160	161,575	2,645,613
Cumulative effects of changes in accounting policies			240		240					22,120	22,120		22,361
Restated balance at December 31, 2014	1,165,438	515,886	471,973	(84,180)	2,069,118	56,241	10,465	231,393	157,679	(18,498)	437,280	161,575	2,667,974
Changes of items during the period													
Dividends from surplus			(35,526)		(35,526)								(35,526)
Net income			7,636		7,636								7,636
Purchase of treasury stock				(39)	(39)								(39)
Disposal of treasury stock		0		3	4								4
Increase by increase of consolidated subsidiaries			8,989		8,989								8,989
Decrease by increase of consolidated subsidiaries			(2,520)		(2,520)								(2,520)
Decrease by decrease of consolidated subsidiaries			(1,864)		(1,864)								(1,864)
Increase by increase of associates accounted for using equity method			5,281		5,281								5,281
Reversal of revaluation reserve for land			2,947		2,947								2,947
Others			775		775								775
Net changes of items other than shareholders' equity						(23,682)	(13,166)	28,177	(3,372)	(21,593)	(33,637)	(65,154)	(98,791)
Total changes of items during the period	-	0	(14,283)	(35)	(14,318)	(23,682)	(13,166)	28,177	(3,372)	(21,593)	(33,637)	(65,154)	(113,109)
Balance at December 31, 2015	1,165,438	515,886	457,691	(84,215)	2,054,800	32,559	(2,702)	259,570	154,307	(40,092)	403,643	96,421	2,554,865

Consolidated Statements of Cash Flows

(¥ in millions, US$ in thousands)

	Results for the year (Jan. 1-Dec. 31)		
	2014	2015	2015
	¥	¥	$
Net cash provided by (used in) operating activities			
Income before income taxes and minority interests	8,557	6,064	50,276
Depreciation and amortization	40,673	42,137	349,365
Impairment loss	4,784	10,678	88,533
Amortization of goodwill	1,613	1,354	11,223
Increase (decrease) in allowance for doubtful accounts	1,296	14,220	117,903
Increase (decrease) in net defined benefit liability	1,987	(6,903)	(57,236)
Interest and dividends income	(3,715)	(1,922)	(15,939)
Interest expenses	4,546	4,077	33,806
Equity in (earnings) losses of affiliates	(1,212)	(1,917)	(15,892)
Loss (gain) on sales and valuation of investment securities	1,047	(6,243)	(51,765)
Loss on retirement of noncurrent assets	4,168	3,454	28,636
Loss (gain) on sales of noncurrent assets	(28)	415	3,441
Decrease (increase) in notes and accounts receivable-trade	7,282	22,134	183,514
Decrease (increase) in inventories	1,453	18,119	150,228
Increase (decrease) in notes and accounts payable-trade	(3,087)	(24,502)	(203,154)
Other, net	533	(16,733)	(138,740)
Subtotal	69,897	64,430	534,200
Interest and dividends income received	4,250	4,193	34,766
Interest expenses paid	(4,293)	(4,115)	(34,120)
Income taxes paid	(2,859)	(3,337)	(27,671)
Net cash provided by (used in) operating activities	66,996	61,170	507,175
Net cash provided by (used in) investing activities			
Payments into time deposits	(13,650)	(28,962)	(240,129)
Proceeds from withdrawal of time deposits	15,167	31,006	257,076
Purchase of property, plant and equipment	(45,446)	(41,263)	(342,122)
Proceeds from sales of property, plant and equipment	901	697	5,776
Purchase of investment securities	(8,147)	(23,446)	(194,392)
Proceeds from sales of investment securities	10,365	23,725	196,707
Purchase of investments in subsidiaries	−	(862)	(7,146)
Purchase of investments in subsidiaries resulting in change in scope of consolidation	(5,533)	−	−
Net decrease (increase) in short-term loans receivable	(2)	(386)	(3,204)
Payments of long-term loans receivable	−	(2,810)	(23,298)
Collection of long-term loans receivable	234	520	4,309
Other, net	(766)	(715)	(5,928)
Net cash provided by (used in) investing activities	(46,876)	(42,497)	(352,350)
Net increase (decrease) in short-term loans payable	(11,907)	(1,287)	(10,671)
Net increase (decrease) in commercial papers	(13,000)	7,000	58,038
Proceeds from long-term loans payable	71,455	50,240	416,546
Repayment of long-term loans payable	(43,370)	(71,006)	(588,726)
Proceeds from issuance of bonds	15,000	10,000	82,912
Redemption of bonds	−	(10,000)	(82,912)
Payments for retirement by purchase of Preferred equity securities	(24,000)	−	−
Proceeds from stock issuance to minority shareholders	−	129	1,073
Net decrease (increase) in treasury shares	(10,004)	(4)	(35)
Cash dividends paid	(4,477)	(4,272)	(35,416)
Cash dividends paid to minority shareholders	(1,291)	(435)	(3,608)
Other, net	(3,263)	(1,701)	(14,106)
Net cash provided by (used in) financing activities	(24,856)	(21,336)	(176,903)
Effect of exchange rate change on cash and cash equivalents	2,817	(1,058)	(8,775)
Net increase (decrease) in cash and cash equivalents	(1,919)	(3,721)	(30,853)
Cash and cash equivalents at beginning of period	56,084	55,162	457,355
Increase in cash and cash equivalents from newly consolidated subsidiary	996	3,002	24,893
Decrease in cash and cash equivalents resulting from exclusion of subsidiaries	−	(7)	(58)
Increase in cash and cash equivalents resulting from merger	−	161	1,335
Cash and cash equivalents at end of period	55,162	54,597	452,672

SEGMENT INFORMATION

(a) The operations of the Companies for the year ended December 31, 2014 and 2015 were summarized by business segment as follows:

Year ended December 31, 2014	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganic	Aluminium	Others	Elimination	Consolidated
Sales								
Outside customers.	¥274,837	¥127,269	¥136,773	¥58,779	¥90,012	¥185,116	¥–	¥872,785
Inter-segment.	6,564	11,426	1,764	8,778	7,934	6,493	(42,959)	–
Total.	281,400	138,695	138,537	67,557	97,946	191,610	(42,959)	872,785
Operating income (loss).	(¥4,930)	¥5,460	¥25,770	(¥300)	¥2,999	(¥1,041)	(¥7,406)	¥20,551
Assets.	¥143,896	¥188,978	¥161,908	¥163,595	¥156,013	¥193,158	¥2,295	¥1,009,843
Depreciation.	6,472	7,517	13,219	3,591	5,315	2,921	1,638	40,673
Amortization of (negative) goodwill. . . .	6	(228)	47	1,630	156	3	—	1,613
Investments in non-consolidated subsidiaries and affiliates.	13,608	2,381	—	1,590	—	179	—	17,758
Capital expenditures.	4,195	7,768	7,825	15,432	7,106	3,768	1,224	47,318

Year ended December 31, 2015	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganic	Aluminium	Others	Elimination	Consolidated
Sales								
Outside customers.	¥226,442	¥130,150	¥129,759	¥55,223	¥93,377	¥140,781	¥–	¥775,732
Inter-segment.	4,846	12,142	1,733	8,253	7,380	6,452	(40,805)	–
Total.	231,288	142,292	131,492	63,476	100,756	147,233	(40,805)	775,732
Operating income (loss).	¥10,543	¥10,707	¥17,472	(¥1,249)	¥2,563	¥1,329	(¥7,857)	¥33,508
Assets.	¥120,242	¥198,359	¥146,590	¥152,814	¥155,180	¥178,711	(¥11,402)	¥940,494
Depreciation.	5,752	7,569	13,964	4,132	6,042	2,863	1,815	42,137
Amortization of (negative) goodwill. . . .	—	(273)	12	1,354	256	4	—	1,354
Investments in non-consolidated subsidiaries and affiliates.	14,230	2,538	—	6,486	—	232	—	23,486
Capital expenditures.	1,969	10,345	11,130	10,218	6,135	2,369	1,893	44,059

Year ended December 31, 2015	Thousands of U.S. dollars							
	Petrochemicals	Chemicals	Electronics	Inorganic	Aluminium	Others	Elimination	Consolidated
Sales								
Outside customers.	$1,877,469	$1,079,101	$1,075,853	$457,868	$774,204	$1,167,244	$–	$6,431,739
Inter-segment.	40,181	100,668	14,369	68,427	61,185	53,496	(338,325)	–
Total.	1,917,650	1,179,769	1,090,221	526,295	835,389	1,220,739	(338,325)	6,431,739
Operating income (loss).	$87,413	$88,772	$144,867	($10,354)	$21,247	$11,020	($65,143)	$277,823
Assets.	$996,945	$1,644,632	$1,215,409	$1,267,008	$1,286,628	$1,481,728	($94,537)	$7,797,813
Depreciation.	47,695	62,757	115,775	34,255	50,095	23,738	15,050	349,365
Amortization of (negative) goodwill. . . .	—	(2,260)	98	11,229	2,124	33	—	11,223
Investments in non-consolidated subsidiaries and affiliates.	117,986	21,044	—	53,774	—	1,923	—	194,728
Capital expenditures.	16,326	85,774	92,281	84,721	50,868	19,640	15,693	365,302

(b) The operations of the Companies for the year ended December 31, 2014 and 2015 were summarized by geographic area as follows:

Year ended December 31, 2014	Millions of yen			
	Japan	Asia	Others	Total
Sales.	¥546,115	¥284,597	¥42,073	¥872,785
	Japan	Others	Total	
Tangible fixed assets.	¥420,743	¥94,082	¥514,824	

Year ended December 31, 2015	Millions of yen			
	Japan	Asia	Others	Total
Sales.	¥474,402	¥258,932	¥42,398	¥775,732
	Japan	Others	Total	
Tangible fixed assets.	¥414,540	¥87,753	¥502,293	

Year ended December 31, 2015	Thousands of U.S. dollars			
	Japan	Asia	Others	Total
Sales.	$3,933,357	$2,146,855	$351,527	$6,431,739
	Japan	Others	Total	
Tangible fixed assets.	$3,437,025	$727,580	$4,164,605	

(c) The impairment loss and the (negative) goodwill of the Companies for the year ended December 31,2014 and 2015 were summarized by business segment as follows:

Year ended December 31, 2014	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganic	Aluminium	Others	Elimination	Total
Impairment loss.	¥1,798	¥517	¥–	¥1,410	¥4	¥1,054	¥–	¥4,784
Goodwill								
Amortization.	6	134	80	1,630	216	31	—	2,096
Unamortized balance.	—	165	421	1,417	3,945	232	—	6,181
Negative goodwill								
Amortization.	—	362	33	—	60	28	—	483
Unamortized balance.	—	3,012	423	—	779	316	—	4,529

Year ended December 31, 2015	Millions of yen							
	Petrochemicals	Chemicals	Electronics	Inorganic	Aluminium	Others	Elimination	Total
Impairment loss.	¥12	¥60	¥1,955	¥6,180	¥2,092	¥380	¥–	¥10,678
Goodwill								
Amortization.	—	35	44	1,354	316	32	—	1,782
Unamortized balance.	—	294	376	63	3,494	202	—	4,429
Negative goodwill								
Amortization.	—	308	33	—	60	28	—	429
Unamortized balance.	—	2,704	390	—	647	288	—	4,028

Year ended December 31, 2015	Thousands of U.S. dollars							
	Petrochemicals	Chemicals	Electronics	Inorganic	Aluminium	Others	Elimination	Total
Impairment loss.	$101	$497	$16,206	$51,238	$17,344	$3,147	$–	$88,533
Goodwill								
Amortization.	—	293	367	11,229	2,623	268	—	14,779
Unamortized balance.	—	2,437	3,121	524	28,969	1,671	—	36,722
Negative goodwill								
Amortization.	—	2,553	270	—	499	234	—	3,556
Unamortized balance.	—	22,418	3,235	—	5,362	2,384	—	33,400