



# **SK HOLDINGS CO., LTD. AND ITS SUBSIDIARIES**

**CONSOLIDATED FINANCIAL STATEMENTS  
FOR THE YEARS ENDED DECEMBER 31, 2016 AND 2015  
WITH THE INDEPENDENT AUDITORS' REPORT**

## Table of contents

Independent auditors' report	
Consolidated financial statements	Page
Consolidated statements of financial position	1
Consolidated statements of comprehensive income	2
Consolidated statements of changes in shareholders' equity	3
Consolidated statements of cash flows	5
Notes to the consolidated financial statements	6

## Independent auditors' report

### The Shareholders and Board of Directors SK Holdings Co., Ltd.

We have audited the accompanying consolidated financial statements of SK Holdings Co., Ltd. (the "Company") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2016 and 2015, and the related consolidated statements of comprehensive income, changes in shareholders' equity and cash flows for the years then ended, and a summary of significant accounting policies and other explanatory information.

#### Management's responsibility for the consolidated financial statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with Korean International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.

#### Auditors' responsibility

Our responsibility is to express an audit opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the Republic of Korea. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Group as at December 31, 2016 and 2015, and the results of its financial performance and cash flows for the years then ended in accordance with Korean International Financial Reporting Standards.

### **Emphasis of matter**

Without modifying our audit opinion, we draw attention to the following matters:

Emphasis of matter in regard to key audit matters in engineer-to-order manufacturing sectors (ETO)

In accordance with Accounting Audit Practice Guidelines 2016-1, key audit matters in ETO are selected on the basis of auditors' professional judgment and communication with those charged with governance. Such procedures are based on the financial statements as a whole, and we do not express an opinion in regard to such matter.

We have reflected the results of the auditing procedures performed on the key audit matters as described below in forming the audit opinion.

(1) Revenue recognition based on the percentage-of-completion, appropriateness of percentage-of-completion calculation and recoverability of unbilled construction contract.

As explained in Note 2 to the accompanying financial statements, when the outcome of construction contract can be reliably measured, construction revenue and construction costs are recognized based on the percentage-of-completion method. The percentage-of-completion is calculated by dividing total construction costs to date by the total estimated costs of the construction, and if such method does not reliably measure the construction contract, there exists risk in relation to measurement of construction revenue and construction costs.

Further, the Group recognized accounts receivable (unbilled contract revenue) for construction cost to date, net of recognized loss, exceeding billed amounts. As at December 31, 2016, unbilled construction contract amounted to ₩786,678 million and if such amount is uncollected, the Group is exposed to risks in relation to asset measurement.

We performed the following audit procedures for the key audit matters associated with revenue recognition based on the percentage-of-completion, appropriateness of percentage-of-completion calculation and recoverability of unbilled construction contract:

- Inquiry about accounting policies on revenue recognition and any changes to the policies.
- Review as to whether it meets the criteria for reliably estimating the outcome of construction contracts.
- Inquiry and analytic review as to construction contracts with a significant change in measure of the percentage-of-completion.
- Review as to reasons for the significant change and recoverability of unbilled construction contract.

(2) Uncertainty in estimating the total estimated costs of the construction contract and the appropriateness of accounting treatment for changes in construction

As explained in Note 2 to the accompanying financial statements, the total estimated costs of the contract are based on the future estimates, and the total construction revenue is based on the agreed amount in the contract. However, the total revenue may change due to alterations in the original contract work and delays caused by the contractor in the completion of the contract. The construction estimated costs and contract revenue are affected by uncertainties associated with the outcomes of future events.

We performed the following audit procedures for the key audit matters, selected on the basis of auditors' professional judgment, in relation to uncertainties in estimating the total contract costs and appropriateness of accounting treatment for changes in construction:

- Inquiry about the appropriateness of accounting treatments for the change of the total estimated costs and the change of construction contracts.
- Inquiry about and document inspection as to the reason of significant changes of total construction revenue or the total estimated costs.

**Other matters**

We have reviewed the translation of the consolidated financial statements mentioned above into United States dollar amounts on the basis described in Note 2 to the accompanying consolidated financial statements. In our opinion, such statements have been properly translated on such basis.

*Ernst & Young Han Young*

March 9, 2017

This audit report is effective as at March 9, 2017, the independent auditors' report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the date of the independent auditors' report to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

# **SK HOLDINGS CO., LTD. and its subsidiaries**

Consolidated financial statements  
for the years ended December 31, 2016 and 2015

“The accompanying financial statements, including all footnotes and disclosures, have been prepared by, and are the responsibility of, the Group.”

Chey, Tae-won, Cho, Daesik and Park, Jung Ho  
Chief Executive Officers  
SK Holdings Co., Ltd.

**SK HOLDINGS CO., LTD.**  
**Consolidated statements of financial position**  
**as at December 31, 2016 and 2015**

(Korean won in millions and U.S. dollar in thousands)

	Notes	Korean won		Translation into U.S. dollar (Note 2)	
		2016	2015	2016	2015
<b>Assets</b>					
Current assets:					
Cash and cash equivalents	6,34,36,37	₩ 7,086,957	₩ 6,995,224	\$ 5,864,259	\$ 5,788,353
Trade accounts receivable	6,7,34,37	10,398,471	10,177,906	8,604,444	8,421,933
Other accounts receivable	6,37	1,828,941	1,654,688	1,513,398	1,369,208
Inventories	8,11,34	6,018,855	5,643,327	4,980,434	4,669,695
Available-for-sale financial assets	6,9,37	179,448	153,340	148,488	126,885
Other current assets	6,19,20,31,34,36,37	6,301,260	5,090,707	5,214,117	4,212,418
Assets held for sale	30	636,110	49,939	526,363	41,323
Total current assets		<u>32,450,042</u>	<u>29,765,131</u>	<u>26,851,503</u>	<u>24,629,815</u>
Non-current assets:					
Long-term trade accounts receivable	6,7,37	24,188	45,251	20,015	37,444
Long-term other accounts receivable	6,37	205,584	117,161	170,115	96,947
Available-for-sale financial assets	6,9,34,37	1,527,092	1,906,664	1,263,626	1,577,711
Investments in associates and joint ventures	10,34	11,559,899	11,157,775	9,565,494	9,232,747
Property, plant and equipment	11,31,34	41,032,505	39,445,286	33,953,252	32,639,873
Investment property	12,34	727,783	797,808	602,220	660,164
Goodwill	13	575,233	27,078	475,989	22,406
Intangible assets	14	11,197,157	9,722,351	9,265,335	8,044,974
Deferred income tax assets	26	711,591	629,235	588,822	520,674
Other non-current assets	6,18,19,20,31,36,37	3,036,263	3,020,069	2,512,423	2,499,023
Total non-current assets		<u>70,597,295</u>	<u>66,868,678</u>	<u>58,417,291</u>	<u>55,331,963</u>
<b>Total assets</b>		<u>₩ 103,047,337</u>	<u>₩ 96,633,809</u>	<u>\$ 85,268,794</u>	<u>\$ 79,961,778</u>
<b>Liabilities</b>					
Current liabilities:					
Short-term borrowings	6,7,15,34,37	₩ 2,614,117	₩ 2,726,701	\$ 2,163,109	\$ 2,256,269
Trade accounts payable	6,37	8,897,260	7,430,851	7,362,234	6,148,822
Other accounts payable	6,37	3,241,765	2,392,058	2,682,470	1,979,361
Provisions	17	420,803	305,020	348,203	252,396
Current portion of long-term debt	6,15,33,34,37	5,629,577	5,493,380	4,658,318	4,545,619
Other current liabilities	6,19,20,31,37	7,850,072	7,569,563	6,495,715	6,263,602
Liabilities held for sale	30	63,016	1,749	52,144	1,447
Total current liabilities		<u>28,716,610</u>	<u>25,919,322</u>	<u>23,762,193</u>	<u>21,447,516</u>
Non-current liabilities:					
Bonds payable and long-term borrowings	6,15,34,37	23,133,506	23,496,303	19,142,330	19,442,535
Long-term other accounts payable	6,16,33,37	4,601,776	3,034,627	3,807,841	2,511,069
Retirement benefit obligation	18	229,378	265,703	189,804	219,862
Provisions	17	104,331	135,480	86,331	112,106
Deferred income tax liabilities	26	3,098,508	2,960,464	2,563,929	2,449,701
Other non-current liabilities	6,19,20,31,37	836,504	744,660	692,184	616,185
Total non-current liabilities		<u>32,004,003</u>	<u>30,637,237</u>	<u>26,482,419</u>	<u>25,351,458</u>
<b>Total liabilities</b>		<u>60,720,613</u>	<u>56,556,559</u>	<u>50,244,612</u>	<u>46,798,974</u>
<b>Equity attributable to owners of the Company:</b>					
Issued capital	21	15,385	15,385	12,731	12,731
Other paid-in capital	21	4,741,139	4,773,965	3,923,160	3,950,323
Retained earnings	21	8,368,122	7,801,713	6,924,387	6,455,700
Other capital components	21	(12,289)	(24,545)	(10,169)	(20,310)
Total equity attributable to owner of the Company		<u>13,112,357</u>	<u>12,566,518</u>	<u>10,850,109</u>	<u>10,398,444</u>
Non-controlling interests		<u>29,214,367</u>	<u>27,510,732</u>	<u>24,174,073</u>	<u>22,764,360</u>
<b>Total equity</b>		<u>42,326,724</u>	<u>40,077,250</u>	<u>35,024,182</u>	<u>33,162,804</u>
<b>Total liabilities and equity</b>		<u>₩ 103,047,337</u>	<u>₩ 96,633,809</u>	<u>\$ 85,268,794</u>	<u>\$ 79,961,778</u>

The accompanying notes are an integral part of the consolidated financial statements.

**SK HOLDINGS CO., LTD.**  
**Consolidated statements of comprehensive income**  
**for the years ended December 31, 2016 and 2015**

(Korean won in millions and U.S. dollar in thousands, except for earnings per share)

	Notes	Korean won		Translation into U.S. dollar (Note 2)	
		2016	2015	2016	2015
<b>Sales</b>	4	₩ 83,617,494	₩ 39,299,525	\$ 69,191,141	\$ 32,519,259
<b>Cost of sales</b>	25	73,769,694	35,382,726	61,042,362	29,278,218
<b>Gross profit</b>		<b>9,847,800</b>	<b>3,916,799</b>	<b>8,148,779</b>	<b>3,241,041</b>
<b>Selling and administrative expenses</b>	22,25	<b>4,549,621</b>	<b>2,510,046</b>	<b>3,764,684</b>	<b>2,076,993</b>
<b>Operating income</b>	4	<b>5,298,179</b>	<b>1,406,753</b>	<b>4,384,095</b>	<b>1,164,048</b>
Financial income	6,23	2,562,180	1,740,647	2,120,132	1,440,337
Financial costs	6,23	(3,378,600)	(2,010,137)	(2,795,697)	(1,663,332)
Gain related to investments in associates and joint ventures, net	10	719,338	664,905	595,232	550,190
Other non-operating income	24	653,619	5,626,973	540,851	4,656,163
Other non-operating expenses	24	(1,478,897)	(1,141,077)	(1,223,746)	(944,209)
<b>Income from continuing operations before income tax expense</b>	4	<b>4,375,819</b>	<b>6,288,064</b>	<b>3,620,867</b>	<b>5,203,197</b>
<b>Income tax expense from continuing operations</b>	26	<b>(1,354,029)</b>	<b>(581,645)</b>	<b>(1,120,421)</b>	<b>(481,295)</b>
<b>Net income from continuing operations</b>		<b>3,021,790</b>	<b>5,706,419</b>	<b>2,500,446</b>	<b>4,721,902</b>
<b>Loss from discontinued operation</b>	29	<b>(199,306)</b>	<b>(157,160)</b>	<b>(164,919)</b>	<b>(130,046)</b>
<b>Net income</b>		<b>2,822,484</b>	<b>5,549,259</b>	<b>2,335,527</b>	<b>4,591,856</b>
Attributable to:					
Owners of the Company		765,580	5,345,978	633,496	4,423,647
Non-controlling interests		2,056,904	203,281	1,702,031	168,209
<b>Other comprehensive income:</b>					
Items not to be reclassified to profit or loss in subsequent periods:					
Remeasurement loss on defined benefit plans		(21,116)	(8,588)	(17,473)	(7,106)
Items to be reclassified to profit or loss in subsequent periods:					
Net gain (loss) on available-for-sale financial assets		34,703	(92,645)	28,716	(76,661)
Equity adjustments of investments in associates and joint ventures		(10,985)	(1,678)	(9,090)	(1,388)
Net change in valuation of cash flow hedges		(37,245)	12,446	(30,819)	10,299
Net gain (loss) on translation of foreign operations		73,865	(6,153)	61,121	(5,091)
Net gain on translation to the presentation currency		5,617	850	4,648	703
<b>Total comprehensive income</b>		<b>₩ 2,867,323</b>	<b>₩ 5,453,491</b>	<b>\$ 2,372,630</b>	<b>\$ 4,512,612</b>
Attributable to:					
Owners of the Company		766,478	5,363,333	634,239	4,438,008
Non-controlling interests		2,100,845	90,158	1,738,391	74,604
<b>Earnings per share (Korean won and U.S. dollar):</b>	27				
Basic earnings per share		₩ 13,676	₩ 107,921	\$ 11.32	\$ 89.30
Basic earning per share from continuing operations		13,859	108,850	11.47	90.07

The accompanying notes are an integral part of the consolidated financial statements.



**SK HOLDINGS CO., LTD.**  
**Consolidated statements of changes in shareholders' equity**  
**for the years ended December 31, 2016 and 2015**

(Korean won in millions)

	Issued capital	Other paid-in capital	Retained earnings	Other capital components	Controlling interests	Non-controlling interests	Total equity
	₩ 10,000	₩ (555,097)	₩ 3,178,899	₩ (48,369)	₩ 2,585,433	₩ 16,935	₩ 2,602,368
<b>As at January 1, 2015</b>							
Total comprehensive income:							
Net income	-	-	5,345,978	-	5,345,978	203,281	5,549,259
Remeasurement loss on defined benefit plans	-	-	(6,469)	-	(6,469)	(2,119)	(8,588)
Net loss on available-for-sale financial assets	-	-	-	(42,664)	(42,664)	(49,981)	(92,645)
Equity adjustments of investment in associates and joint ventures	-	-	-	66,772	66,772	(68,450)	(1,678)
Gain on valuation of derivative financial instruments	-	-	-	1,981	1,981	10,465	12,446
Net loss on translation of foreign operations	-	-	-	(2,965)	(2,965)	(3,188)	(6,153)
Net gain on translation to the presentation currency	-	-	-	700	700	150	850
Transaction with shareholders:							
Dividends	-	-	(88,000)	-	(88,000)	(24,980)	(112,980)
Issuance of new shares from business combination	5,385	5,605,831	-	-	5,611,216	-	5,611,216
Incineration of treasury shares	-	636,010	(636,010)	-	-	-	-
Acquisition of treasury shares	-	(904,490)	-	-	(904,490)	-	(904,490)
Equity transactions in consolidated entities	-	(11,695)	-	-	(11,695)	(201,314)	(213,009)
Increase in non-controlling interests from business combination	-	-	-	-	-	27,641,923	27,641,923
Others	-	3,406	7,315	-	10,721	(11,990)	(1,269)
<b>As at December 31, 2015</b>	<b>₩ 15,385</b>	<b>₩ 4,773,965</b>	<b>₩ 7,801,713</b>	<b>₩ (24,545)</b>	<b>₩ 12,566,518</b>	<b>₩ 27,510,732</b>	<b>₩ 40,077,250</b>
<b>As at January 1, 2016</b>	<b>₩ 15,385</b>	<b>₩ 4,773,965</b>	<b>₩ 7,801,713</b>	<b>₩ (24,545)</b>	<b>₩ 12,566,518</b>	<b>₩ 27,510,732</b>	<b>₩ 40,077,250</b>
Total comprehensive income:							
Net income	-	-	765,580	-	765,580	2,056,904	2,822,484
Remeasurement loss on defined benefit plans	-	-	(11,358)	-	(11,358)	(9,758)	(21,116)
Net gain on available-for-sale financial assets	-	-	-	10,705	10,705	23,998	34,703
Equity adjustments of investment in associates and joint ventures	-	-	-	(37,655)	(37,655)	26,670	(10,985)
Loss on valuation of derivative financial instruments	-	-	-	(18,788)	(18,788)	(18,457)	(37,245)
Net gain on translation of foreign operations	-	-	-	54,477	54,477	19,388	73,865
Net gain on translation to the presentation currency	-	-	-	3,517	3,517	2,100	5,617
Transaction with shareholders:							
Dividends	-	-	(191,750)	-	(191,750)	(939,232)	(1,130,982)
Equity transactions in consolidated entities	-	(30,338)	-	-	(30,338)	112,744	82,406
Changes in the scope of consolidation	-	-	-	-	-	430,338	430,338
Others	-	(2,488)	3,937	-	1,449	(1,060)	389
<b>As at December 31, 2016</b>	<b>₩ 15,385</b>	<b>₩ 4,741,139</b>	<b>₩ 8,368,122</b>	<b>₩ (12,289)</b>	<b>₩ 13,112,357</b>	<b>₩ 29,214,367</b>	<b>₩ 42,326,724</b>

(Continued)

**SK HOLDINGS CO., LTD.**

**Consolidated statements of changes in shareholders' equity  
for the years ended December 31, 2016 and 2015 (cont'd)**

(U.S. dollar in thousands)

	Issued capital	Other paid-in capital	Retained earnings	Other capital components	Controlling interests	Non-controlling interests	Total equity
<b>As at January 1, 2015</b>	\$ 8,275	\$ (459,327)	\$ 2,630,450	\$ (40,024)	\$ 2,139,374	\$ 14,013	\$ 2,153,387
Total comprehensive income:							
Net income	-	-	4,423,647	-	4,423,647	168,209	4,591,856
Remeasurement loss on defined benefit plans	-	-	(5,353)	-	(5,353)	(1,753)	(7,106)
Net loss on available-for-sale financial assets	-	-	-	(35,303)	(35,303)	(41,358)	(76,661)
Equity adjustments of investment in associates and joint ventures	-	-	-	55,252	55,252	(56,640)	(1,388)
Gain on valuation of derivative financial instruments	-	-	-	1,639	1,639	8,660	10,299
Net loss on translation of foreign operations	-	-	-	(2,453)	(2,453)	(2,638)	(5,091)
Net gain on translation to the presentation currency	-	-	-	579	579	124	703
Transaction with shareholders:							
Dividends	-	-	(72,818)	-	(72,818)	(20,670)	(93,488)
Issuance of new shares from business combination	4,456	4,638,669	-	-	4,643,125	-	4,643,125
Incineration of treasury shares	-	526,281	(526,281)	-	-	-	-
Acquisition of treasury shares	-	(748,440)	-	-	(748,440)	-	(748,440)
Equity transactions in consolidated entities	-	(9,677)	-	-	(9,677)	(166,582)	(176,259)
Increase in non-controlling interests from business combination	-	-	-	-	-	22,872,919	22,872,919
Others	-	2,817	6,055	-	8,872	(9,924)	(1,052)
<b>As at December 31, 2015</b>	<b>\$ 12,731</b>	<b>\$ 3,950,323</b>	<b>\$ 6,455,700</b>	<b>\$ (20,310)</b>	<b>\$ 10,398,444</b>	<b>\$ 22,764,360</b>	<b>\$ 33,162,804</b>
<b>As at January 1, 2016</b>	<b>\$ 12,731</b>	<b>\$ 3,950,323</b>	<b>\$ 6,455,700</b>	<b>\$ (20,310)</b>	<b>\$ 10,398,444</b>	<b>\$ 22,764,360</b>	<b>\$ 33,162,804</b>
Total comprehensive income:							
Net income	-	-	633,496	-	633,496	1,702,031	2,335,527
Remeasurement loss on defined benefit plans	-	-	(9,398)	-	(9,398)	(8,075)	(17,473)
Net gain on available-for-sale financial assets	-	-	-	8,858	8,858	19,858	28,716
Equity adjustments of investment in associates and joint ventures	-	-	-	(31,158)	(31,158)	22,068	(9,090)
Loss on valuation of derivative financial instruments	-	-	-	(15,547)	(15,547)	(15,272)	(30,819)
Net gain on translation of foreign operations	-	-	-	45,078	45,078	16,043	61,121
Net gain on translation to the presentation currency	-	-	-	2,910	2,910	1,738	4,648
Transaction with shareholders:							
Dividends	-	-	(158,668)	-	(158,668)	(777,188)	(935,856)
Equity transactions in consolidated entities	-	(25,104)	-	-	(25,104)	93,293	68,189
Changes in the scope of consolidation	-	-	-	-	-	356,093	356,093
Others	-	(2,059)	3,257	-	1,198	(876)	322
<b>As at December 31, 2016</b>	<b>\$ 12,731</b>	<b>\$ 3,923,160</b>	<b>\$ 6,924,387</b>	<b>\$ (10,169)</b>	<b>\$ 10,850,109</b>	<b>\$ 24,174,073</b>	<b>\$ 35,024,182</b>

The accompanying notes are an integral part of the consolidated financial statements.

**SK HOLDINGS CO., LTD.**  
**Consolidated statements of cash flows**  
**for the years ended December 31, 2016 and 2015**  
(Korean won in millions and U.S. dollar in thousands)

	Notes	Korean won		Translation into U.S. dollar (Note 2)	
		2016	2015	2016	2015
<b>Cash flows from operating activities:</b>					
Net income		₩ 2,822,484	₩ 5,549,259	\$ 2,335,527	\$ 4,591,856
Non-cash adjustments	32	8,145,103	(1,640,526)	6,739,845	(1,357,489)
Working capital adjustments	32	130,353	1,503,632	107,863	1,244,213
Interest received		198,642	89,213	164,371	73,821
Interest paid		(1,140,901)	(457,596)	(944,064)	(378,648)
Dividends received		172,033	97,404	142,353	80,599
Income tax paid		(1,217,042)	(552,530)	(1,007,068)	(457,203)
<b>Net cash provided by operating activities</b>		<b>9,110,672</b>	<b>4,588,856</b>	<b>7,538,827</b>	<b>3,797,149</b>
<b>Cash flows from investing activities:</b>					
Decrease in short-term financial assets, net		(1,428,609)	(1,765,993)	(1,182,134)	(1,461,310)
Decrease (increase) in short-term loans, net		(25,642)	60,762	(21,218)	50,279
Proceeds from disposal of available-for-sale financial assets		587,816	90,244	486,401	74,674
Proceeds from disposal of investments in associates and joint ventures		92,180	17,835	76,276	14,758
Proceeds from disposal of property, plant and equipment		167,465	184,998	138,573	153,081
Proceeds from disposal of intangible assets		35,886	20,855	29,695	17,257
Proceeds from disposal of investment property		258,149	2,258	213,611	1,868
Proceeds from disposal of assets held for sale		152,323	34,329	126,043	28,406
Acquisition of available-for-sale financial assets		(108,762)	(160,666)	(89,998)	(132,947)
Acquisition of investments in associates and joint ventures		(218,704)	(50,854)	(180,971)	(42,080)
Acquisition of property, plant and equipment		(4,935,373)	(2,237,666)	(4,083,883)	(1,851,606)
Acquisition of intangible assets		(914,120)	(230,753)	(756,409)	(190,942)
Acquisition of investment property		(2,967)	(4,473)	(2,455)	(3,701)
Changes in cash from changes in the scope of consolidation		(1,053,037)	8,363,109	(871,359)	6,920,239
Others, net		12,885	5,925	10,662	4,903
<b>Net cash provided by (used in) investing activities</b>		<b>(7,380,510)</b>	<b>4,329,910</b>	<b>(6,107,166)</b>	<b>3,582,880</b>
<b>Cash flows from financing activities:</b>					
Decrease in short-term borrowings, net		(150,109)	(974,026)	(124,211)	(805,979)
Increase in bonds payable and borrowings		5,956,151	2,525,260	4,928,549	2,089,582
Increase in other accounts payable		653,730	40,316	540,943	33,360
Repayment of current portion of long-term debt		(6,109,821)	(1,913,598)	(5,055,706)	(1,583,449)
Decrease in bonds payable and borrowings		(627,336)	(561,299)	(519,103)	(464,459)
Decrease in other accounts payable		(321,925)	(6,290)	(266,384)	(5,205)
Payment of dividends		(1,132,614)	(164,945)	(937,206)	(136,487)
Acquisition of treasury shares		-	(904,490)	-	(748,440)
Cash inflows (outflows) from transactions in equity of consolidated subsidiaries		113,132	(265,856)	93,614	(219,988)
Others, net		(3,582)	(551)	(2,964)	(455)
<b>Net cash used in financing activities</b>		<b>(1,622,374)</b>	<b>(2,225,479)</b>	<b>(1,342,469)</b>	<b>(1,841,520)</b>
<b>Net increase in cash and cash equivalents</b>		<b>107,788</b>	<b>6,693,287</b>	<b>89,192</b>	<b>5,538,509</b>
<b>Net foreign exchange effects</b>		<b>(13,961)</b>	<b>55,920</b>	<b>(11,553)</b>	<b>46,272</b>
<b>Cash and cash equivalents at the beginning of the year</b>		<b>6,995,224</b>	<b>246,017</b>	<b>5,788,353</b>	<b>203,572</b>
<b>Cash and cash equivalents included in assets held-for-sale</b>		<b>(2,094)</b>	<b>-</b>	<b>(1,733)</b>	<b>-</b>
<b>Cash and cash equivalents at the end of the year</b>		<b>₩ 7,086,957</b>	<b>₩ 6,995,224</b>	<b>\$ 5,864,259</b>	<b>\$ 5,788,353</b>

The accompanying notes are an integral part of the consolidated financial statements.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**1. Corporate information**

**1.1 Outline of the parent**

SK Holdings Co., Ltd. (the “Company”) was established on April 13, 1991 and is engaged in providing systems integration, software design and development, information processing, consulting services and sales of pre-owned automobiles, and is headquartered at 26, Jong-ro, Jongno-gu, Seoul. The Company’s ordinary shares have been listed on the Korea Exchange since November 11, 2009.

Resulting from the acquisition of SK Holdings Co., Ltd. by SK C&C Co., Ltd. effective August 1, 2015, the Company added the investment business to its existing operations for the purpose of holding the securities of its subsidiaries. Furthermore, the Company changed its name to its current form as at the acquisition date.

As at December 31, 2016, the issued capital of the Company amounts to ₩15,385 million (including ₩113 million of preferred shares) and major shareholders and their equity ownership are Tae-won Chey (23.40%), National Pension Service (8.33%) and Ki-won Choi (7.46%).

**1.2 Consolidated subsidiaries**

The Company and its subsidiaries (the “Group”) are engaged in petroleum refining, telecommunications, wholesale and retail, chemicals, construction and other industries. Subsidiaries whose accounts are included in the consolidated financial statements as at December 31, 2016 are as follows:

Subsidiary	Domicile	Principal business activity	The largest shareholders	Equity ownership (*1)
SK Innovation Co., Ltd. (*2)	Korea	Resource development	SK Holdings Co., Ltd.	33.40%
SK Energy Co., Ltd.	Korea	Crude oil refining and sales	SK Innovation Co., Ltd.	100.00%
Netruck Co., Ltd.	Korea	Transportation and oil sales	SK Energy Co., Ltd.	100.00%
Jeju United FC Corporation	Korea	Sports association sponsoring	SK Energy Co., Ltd.	100.00%
SK Energy Road Investment Co., Ltd.	Cayman	Investment	SK Energy Co., Ltd.	100.00%
MOKGAM SERVICE	Korea	Crude oil sales	SK Energy Co., Ltd.	100.00%
SK Energy Road Investment (HK) Co., Ltd.	Hong Kong	Investment and trade	SK Energy Road Investment Co., Ltd.	100.00%
Ningbo SK Baoying Asphalt Storage Co., Ltd.	China	Asphalt manufacturing	SK Energy Road Investment (HK) Co., Ltd.	51.00%
Hefei SK Baoying Asphalt Co., Ltd.	China	Asphalt manufacturing	SK Energy Road Investment (HK) Co., Ltd.	51.00%
Chongqing SK Asphalt Co., Ltd.	China	Asphalt manufacturing	SK Energy Road Investment (HK) Co., Ltd.	51.00%
SK Shanghai Asphalt Co., Ltd.	China	Asphalt manufacturing	SK Energy Road Investment (HK) Co., Ltd.	100.00%
SK Energy Hong Kong Co., Ltd.	Hong Kong	Investment	SK Energy Co., Ltd.	100.00%
Shandong SK Hightech Oil Co., Ltd.	China	Gas station operation	SK Energy Hong Kong Co., Ltd.	58.84%
SK Global Chemical Co., Ltd.	Korea	Chemicals manufacturing and sales	SK Innovation Co., Ltd.	100.00%
SK Global Chemical (China) Holding Co., Ltd.	China	Investment	SK Global Chemical Co., Ltd.	100.00%
SK Global Chemical International Trading (Shanghai) Co., Ltd.	China	Petrochemicals sales	SK Global Chemical (China) Holding Co., Ltd.	100.00%
SK Golden Tide Plastics (Yantai) Co., Ltd.	China	Petrochemicals sales	SK Global Chemical (China) Holding Co., Ltd.	51.00%
SK Global Chemical International Trading (Guangzhou) Co., Ltd.	China	Petrochemicals sales	SK Global Chemical (China) Holding Co., Ltd.	100.00%
Shanghai Huayou International Freight Forwarding Co., Ltd.	China	Foreign freight forwarding	SK Global Chemical (China) Holding Co., Ltd.	100.00%
SK Global Chemical Americas, Inc.	USA	Petrochemicals sales	SK Global Chemical Co., Ltd.	100.00%
SK Global Chemical Japan Co., Ltd.	Japan	Petrochemicals sales	SK Global Chemical Co., Ltd.	100.00%
SK Global Chemical Singapore Pte. Ltd.	Singapore	Petrochemicals sales	SK Global Chemical Co., Ltd.	100.00%
SK Global Chemical Investment Hong Kong Ltd.	Hong Kong	Investment	SK Global Chemical Co., Ltd.	100.00%
Ningbo SK Performance Rubber Co., Ltd.	China	Synthetic rubber manufacturing	SK Global Chemical Investment Hong Kong Ltd.	80.00%
SK Incheon Petrochem Co., Ltd. (*3)	Korea	Chemicals manufacturing and sales	SK Innovation Co., Ltd.	100.00%
SK Trading International Co., Ltd.	Korea	Trading business	SK Innovation Co., Ltd.	100.00%
SK Energy International Pte. Ltd.	Singapore	Trading business	SK Trading International Co., Ltd.	100.00%
SK Energy Europe, Ltd.	UK	Trading business	SK Energy International Pte. Ltd.	100.00%
SK Energy Americas, Inc.	USA	Trading business	SK Energy International Pte. Ltd.	100.00%
SK Terminal B.V.	Netherlands	Investment	SK Energy International Pte. Ltd.	100.00%
Bergaya International Pte. Ltd.	Singapore	Management and consulting	SK Energy International Pte. Ltd.	100.00%
SK Lubricants Co., Ltd.	Korea	Lubricants oil manufacturing	SK Innovation Co., Ltd.	100.00%
Yubase Manufacturing Asia Corporation	Korea	Lubricants oil manufacturing and sales	SK Lubricants Co., Ltd.	70.00%
SK Energy Lubricants (Tianjin) Co., Ltd.	China	Lubricants oil manufacturing and sales	SK Lubricants Co., Ltd.	100.00%
PT. Patra SK	Indonesia	Lubricants oil manufacturing and sales	SK Lubricants Co., Ltd.	65.00%
SK Lubricants & Oils India Private Limited	India	Lubricants oil sales	SK Lubricants Co., Ltd.	100.00%
SK Lubricants Americas, Inc.	USA	Lubricants oil sales	SK Lubricants Co., Ltd.	100.00%
SK Lubricants Europe B.V.	Netherlands	Lubricants oil sales	SK Lubricants Co., Ltd.	100.00%
SK Lubricants Japan Co., Ltd.	Japan	Lubricants oil sales	SK Lubricants Co., Ltd.	100.00%
Iberian Lube Base Oils, S.A.	Spain	Lubricants oil manufacturing and sales	SK Lubricants Co., Ltd.	70.00%
SK Lubricants Russia L.L.C	Russia	Lubricants oil sales	SK Lubricants Co., Ltd.	100.00%
SK Mobile Energy Co., Ltd.	Korea	Lithium battery manufacturing	SK Innovation Co., Ltd.	100.00%
SK Innovation Insurance (Bermuda), Ltd.	Bermuda	Insurance	SK Innovation Co., Ltd.	100.00%
SK USA, Inc.	USA	Management consulting services	SK Innovation Co., Ltd.	100.00%
SK Energy Australia (Togara) Pty. Ltd.	Australia	Resource development	SK Innovation Co., Ltd.	100.00%
Moche Energy Company, L.L.C	Peru	Resource development	SK Innovation Co., Ltd.	99.90%
SK E&P Company	USA	Crude oil development	SK Innovation Co., Ltd.	100.00%
SK E&P America, Inc.	USA	Investment	SK Innovation Co., Ltd.	100.00%
SK Plymouth, L.L.C	USA	Crude oil development	SK E&P America, Inc.	100.00%
SK Permian, L.L.C	USA	Crude oil development	SK E&P America, Inc.	100.00%
SK Battery Systems Co., Ltd.	Korea	Battery pack manufacturing	SK Innovation Co., Ltd.	100.00%
SK Telecom Co., Ltd. (*2)	Korea	Mobile telecommunications	SK Holdings Co., Ltd.	25.22%
SK Telink Co., Ltd.	Korea	International call and MVNO business	SK Telecom Co., Ltd.	85.86%
SK Broadband Co., Ltd.	Korea	Wire communications	SK Telecom Co., Ltd.	100.00%
PS&Marketing Corp.	Korea	Resale communication business	SK Telecom Co., Ltd.	100.00%

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**1.2 Consolidated subsidiaries (cont'd)**

Subsidiary	Domicile	Principal business activity	The largest shareholders	Equity ownership (*1)
Serviceace Co., Ltd.	Korea	Call center and telemarketing business	SK Telecom Co., Ltd.	100.00%
Service Top Co., Ltd.	Korea	Call center and telemarketing business	SK Telecom Co., Ltd.	100.00%
Network O&S Co., Ltd.	Korea	Maintenance management	SK Telecom Co., Ltd.	100.00%
Neos Networks Co., Ltd. (*4)	Korea	Machine security and facilities security	SK Telink Co., Ltd.	100.00%
SK techx Co., Ltd.	Korea	System software development and supplying	SK Telecom Co., Ltd.	100.00%
One store Co., Ltd.	Korea	Telecommunication service	SK Telecom Co., Ltd.	65.54%
SK Planet Co., Ltd. (*5)	Korea	IT service	SK Telecom Co., Ltd.	98.10%
SK M & Service Co., Ltd. (formerly M & Service Co., Ltd.)	Korea	Internet website service	SK Planet Co., Ltd.	100.00%
SK Communications Co., Ltd.	Korea	Internet portal service	SK Telecom Co., Ltd.	64.54%
Stonebridge Cinema Fund	Korea	Investment fund	SK Planet Co., Ltd.	55.23%
K-Net Culture & Contents Venture Fund	Korea	Investment fund	SK techx Co., Ltd.	59.00%
SK Planet Japan K.K.	Japan	Digital contents sourcing and presenting	SK Planet Co., Ltd.	100.00%
SK Planet Global Pte. Ltd.	Singapore	Digital contents sourcing and presenting	SK Planet Co., Ltd.	100.00%
SKP America, L.L.C	USA	Digital contents sourcing and presenting	SK Planet Co., Ltd.	100.00%
shopkick Management Company, Inc. (*6)	USA	Investment	SKP America, L.L.C	100.00%
shopkick, Inc.	USA	E-commerce App. development	shopkick Management Company, Inc.	100.00%
SKP Global Holdings Pte. Ltd.	Singapore	Holding Company	SK Planet Co., Ltd.	100.00%
SK Telecom China Holding Co., Ltd.	China	Holding Company	SK Telecom Co., Ltd.	100.00%
SK Global Healthcare Business Group., Ltd.	Hong Kong	Investment	SK Telecom Co., Ltd.	100.00%
SKT Vietnam Pte. Ltd.	Singapore	Wireless communications	SK Telecom Co., Ltd.	73.32%
SKT Americas, Inc.	USA	Management consulting and information gathering	SK Telecom Co., Ltd.	100.00%
YTK Investment, Ltd.	Cayman	Investment	SK Telecom Co., Ltd.	100.00%
Atlas Investment, Ltd.	Cayman	Investment	SK Telecom Co., Ltd.	100.00%
SK Telecom Innovation Fund, L.P. (formerly, Technology Innovation Partners, L.P.)	USA	Investment	Atlas Investment, Ltd.	100.00%
SK Telecom China Fund I L.P.	Cayman	Investment	Atlas Investment, Ltd.	100.00%
iriver Co., Ltd. (*2)	Korea	Video and audio equipment manufacturing	SK Telecom Co., Ltd.	48.89%
iriver Inc.	USA	Marketing and sales in North America	iriver Co., Ltd.	100.00%
iriver Enterprise Ltd.	Hong Kong	Chinese subsidiary management	iriver Co., Ltd.	100.00%
iriver China Co., Ltd.	China	MP3,4 production and sales	iriver Enterprise, Ltd.	100.00%
Dongguan iriver Electronics Co., Ltd.	China	Electronic book production and sales	iriver Enterprise, Ltd.	100.00%
groovers Japan Co., Ltd.	Japan	Music distribution and sales	iriver Co., Ltd.	100.00%
ENTRIX Co., Ltd.	Korea	Cloud streaming operations	SK Telecom Co., Ltd.	100.00%
Planet11 E-commerce Solutions India Pvt. Ltd.	India	E-commerce platform providing	SK Planet Co., Ltd.	99.00%
11street (Thailand) Co., Ltd.	Thailand	E-commerce	SK Planet Co., Ltd.	100.00%
Hello Nature Co., Ltd.	Korea	Agriculture and livestock retailing	SK Planet Co., Ltd.	100.00%
SK Networks Co., Ltd. (*2)	Korea	Distribution and trading business	SK Holdings Co., Ltd.	39.14%
SK Networks Service Co., Ltd.	Korea	Communications equipment repair service	SK Networks Co., Ltd.	86.50%
SK Pinx Co., Ltd.	Korea	Golf club operating	SK Networks Co., Ltd.	100.00%
Car Life Service Co., Ltd. (formerly, Speed Motors Co., Ltd.)	Korea	Car dealer	SK Networks Co., Ltd.	100.00%
SKN (China) Holdings Co., Ltd.	China	Holding Company	SK Networks Co., Ltd.	100.00%
SK Networks (China) Fashion Co., Ltd. (*7)	China	Fashion	SK Networks Co., Ltd.	100.00%
Liaoning SK Networks Real Estate Development Co., Ltd.	China	Real estate development	SKN (China) Holdings Co., Ltd.	100.00%
Shenyang SK Bus Terminal Co., Ltd.	China	Bus terminal business	SKN (China) Holdings Co., Ltd.	75.00%
SK Networks (Liaoning) Logistics Co., Ltd.	China	Distribution and logistics	SKN (China) Holdings Co., Ltd.	100.00%
SK Networks (Dandong) Energy Co., Ltd.	China	Petroleum sales	SKN (China) Holdings Co., Ltd.	100.00%
Shenyang SK Networks Energy Co., Ltd.	China	Petroleum sales	SK Networks Co., Ltd.	100.00%
SK (GZ FreeZone) Co., Ltd.	China	Trading business	SK Networks Co., Ltd.	100.00%
SK Networks (Shanghai) Co., Ltd.	China	Trading business	SK Networks Co., Ltd.	100.00%
POSK (Pinghu) Steel Processing Center Co., Ltd.	China	Steel processing and sales	SK Networks Co., Ltd.	80.00%
SK Networks Hong Kong Ltd.	Hong Kong	Trading business	SK Networks Co., Ltd.	100.00%
SK (Guangzhou) Metal Co., Ltd.	China	Steel processing and sales	SK Networks Hong Kong Ltd.	100.00%
SK Networks (Xiamen) Steel Processing Center Co., Ltd.	China	Steel processing and sales	SK Networks Hong Kong Ltd.	100.00%
SK Networks Japan Co., Ltd.	Japan	Trading business	SK Networks Co., Ltd.	100.00%
Obzee N. Y. Inc. (*7)	USA	Fashion	SK Networks Co., Ltd.	100.00%
SK Networks Deutschland GmbH	Germany	Trading business	SK Networks Co., Ltd.	100.00%
Daiyang SK Networks SAN. VE TIC. Ltd. STI (*7)	Turkey	Steel processing and sales	SK Networks Co., Ltd.	51.22%
SK Networks Resources Australia Pty. Ltd.	Australia	Resource development	SK Networks Co., Ltd.	100.00%
SK Magic Co. Ltd. (*8)	Korea	Household appliances manufacturing, sales and rent	SK Networks Co., Ltd.	100.00%
SK Magic Service Co. Ltd. (*8)	Korea	House appliances repair and others	SK Magic Co. Ltd.	100.00%
SKC Co., Ltd. (*2)	Korea	Petrochemicals manufacturing	SK Holdings Co., Ltd.	41.00%
SK Telesys Co., Ltd.	Korea	Communications equipment manufacturing and sales	SKC Co., Ltd.	79.39%
SKC Solmics Co., Ltd.	Korea	Semiconductor component manufacturing	SKC Co., Ltd.	57.70%
Solmics Taiwan Co., Ltd.	Taiwan	Semiconductor component distribution	SKC Solmics Co., Ltd.	100.00%
Solmics Shanghai Co., Ltd.	China	Semiconductor component distribution	SKC Solmics Co., Ltd.	100.00%
SKW Co., Ltd. (*6)	Korea	Film manufacturing	SKC Co., Ltd.	100.00%
SKC (Jiangsu) High tech Plastics Co., Ltd. (*4)	China	Film manufacturing	SKC Co., Ltd.	91.38%
SKC, Inc.	USA	Manufacturing	SKC Co., Ltd.	100.00%
SKC Europe GmbH	Germany	Sales	SKC Co., Ltd.	100.00%
SK bioland Co., Ltd. (formerly, Bioland Co., Ltd.) (*2)	Korea	Manufacturing	SKC Co., Ltd.	27.94%
Bioland Biotec Co., Ltd.	China	Research and manufacturing	SK bioland Co., Ltd (formerly, Bioland Co., Ltd.)	100.00%
Bioland Haimen Co., Ltd.	China	Manufacturing	Bioland Biotec Co., Ltd.	100.00%
SE (JIANGSU) Electronic Materials Co., Ltd.	China	Sales of raw chemical materials and chemical products related to semiconductor	SK Telesys Co., Ltd.	51.00%
Techdream Co., Ltd.	Hong Kong	Semiconductor component	SK Telesys Co., Ltd.	100.00%
SKC INFRA SERVICE CO., LTD.	Korea	Electrical contractor, telecommunications contractor	SK Telesys Co., Ltd.	100.00%
SK Shipping Co., Ltd.	Korea	Shipping	SK Holdings Co., Ltd.	83.08%
GaSan 2nd L.L.C	Korea	Securitization company	(*9)	-
Blueseaocean 1st L.L.C	Korea	Securitization company	(*9)	-
Blueseaocean 2nd L.L.C	Korea	Securitization company	(*9)	-
With Ocean L.L.C	Korea	Securitization company	(*9)	-
YUKYUNGJUU 1ST L.L.C	Korea	Securitization company	(*9)	-
NEPTUNE SOLUTION L.L.C	Korea	Securitization company	(*9)	-
SK Shipping Hong Kong Ltd.	Hong Kong	Shipping	SK Shipping Co., Ltd.	100.00%
SK Shipping Singapore Pte. Ltd.	Singapore	Shipping	SK Shipping Co., Ltd.	100.00%
SK B&T Pte. Ltd.	Singapore	Petroleum sales	SK Shipping Co., Ltd.	55.00%

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**1.2 Consolidated subsidiaries (cont'd)**

Subsidiary	Domicile	Principal business activity	The largest shareholders	Equity ownership (*1)
Promise Shipholding S.A. and 63 other companies	Panama and others	Special purpose company for acquiring ship	(*9)	-
SK Shipping Europe Plc.	UK	Shipping	SK Shipping Co., Ltd.	100.00%
SK E&S Co., Ltd.	Korea	City gas business and power generation	SK Holdings Co., Ltd.	100.00%
Kangwon City Gas Co., Ltd.	Korea	City gas business	SK E&S Co., Ltd.	100.00%
Yeongnam Energy Service Co., Ltd.	Korea	City gas business	SK E&S Co., Ltd.	100.00%
Ko-one Energy Service Co., Ltd.	Korea	City gas business	SK E&S Co., Ltd.	100.00%
Narae Energy Service Co., Ltd.	Korea	Integrated energy service	SK E&S Co., Ltd.	100.00%
Pusan City Gas Co., Ltd.	Korea	City gas business	SK E&S Co., Ltd.	67.32%
Jeonbuk Energy Service Co., Ltd.	Korea	City gas business	SK E&S Co., Ltd.	100.00%
Chonnam City Gas Co., Ltd.	Korea	City gas business	SK E&S Co., Ltd.	100.00%
Chungcheong Energy Service Co., Ltd.	Korea	City gas business	SK E&S Co., Ltd.	100.00%
Paju Energy Service Co., Ltd. (formerly, PMP Co., Ltd.)	Korea	Energy business	SK E&S Co., Ltd.	100.00%
Wirye Energy Service Co., Ltd.	Korea	Integrated energy service	SK E&S Co., Ltd.	95.17%
SK E&S Hong Kong Co., Ltd.	Hong Kong	City gas business	SK E&S Co., Ltd., Pusan City Gas Co., Ltd.	100.00%
SK E&S Australia Pty. Ltd.	Australia	Resource development	SK E&S Co., Ltd.	100.00%
SK E&S Americas, Inc.	USA	Investment	SK E&S Co., Ltd.	100.00%
SK E&S LNG, L.L.C	USA	Liquefied natural gas sales	SK E&S Americas, Inc.	100.00%
DewBlaine Energy, L.L.C	USA	Resource development	SK E&S Americas, Inc.	100.00%
CAILIP Gas Marketing, L.L.C	USA	Resource development	SK E&S Americas, Inc.	100.00%
SK LNG Trading Pte. Ltd.	Singapore	Liquefied natural gas sales	SK E&S Co., Ltd.	100.00%
PT SK E&S Nusantara	Indonesia	Management consulting	SK E&S Co., Ltd.	100.00%
Fajar Energy International Pte. Ltd.	Singapore	Liquefied natural gas sales	SK LNG Trading Pte. Ltd.	100.00%
SK Engineering & Construction Co., Ltd. (*2)	Korea	Construction	SK Holdings Co., Ltd.	44.48%
Seosuwon Development Company (*2)	Korea	Real estate development and construction	SK Engineering & Construction Co., Ltd.	19.90%
SK TNS Co., Ltd. (*3)	Korea	Construction and services	SK Engineering & Construction Co., Ltd.	100.00%
SKEC Nanjing Co., Ltd.	China	Construction	SK Engineering & Construction Co., Ltd.	100.00%
SKEC (Thai), Ltd.	Thailand	Construction	SK Engineering & Construction Co., Ltd.	100.00%
Thai Woo Ree Engineering Co., Ltd.	Thailand	Construction	SKEC (Thai), Ltd.	99.77%
SKEC Anadolu EC, L.L.C	Turkey	Construction	SK Engineering & Construction Co., Ltd.	100.00%
SK E&C Betek Corporation	USA	Real estate development and construction	SK Engineering & Construction Co., Ltd.	100.00%
Mesa Verde RE Ventures, L.L.C	USA	Real estate development	SK E&C Betek Corporation	100.00%
N-Compass Development, L.L.C	USA	EPC Marketing	SK E&C Betek Corporation	100.00%
SKEC Consultores Equador, S.A.	Ecuador	Construction	SK Engineering & Construction Co., Ltd.	100.00%
Sunlake Co., Ltd.	Canada	Construction and services	SK Engineering & Construction Co., Ltd.	100.00%
SK E&C India Pvt. Ltd.	India	Engineering service	SK Engineering & Construction Co., Ltd.	99.94%
SK HOLDCO PTE. LTD.	Singapore	Holding Company	SK Engineering & Construction Co., Ltd.	61.14%
SK Materials Co., Ltd. (*2, 10)	Korea	Special gas manufacturing and sales	SK Holdings Co., Ltd.	49.10%
SK Materials Japan Co., Ltd. (*10)	Japan	Special gas sales	SK Materials Co., Ltd.	95.00%
SK Materials Taiwan Co., Ltd. (*10)	Taiwan	Special gas sales	SK Materials Co., Ltd.	100.00%
SK Materials (Jiangsu) Co., Ltd. (*10)	China	Special gas manufacturing and sales	SK Materials Co., Ltd.	100.00%
SK Materials (Xian) Co., Ltd. (*10)	China	Trading business and warehouse operation	SK Materials Co., Ltd.	100.00%
SK Airgas Co., Ltd. (formerly, SKC Airgas Co., Ltd.)	Korea	Manufacturing	SK Materials Co., Ltd.	80.00%
SK Tri Chem Co., Ltd.	Korea	Manufacturing and sales of precursors and others	SK Materials Co., Ltd.	65.00%
SK Infosec Co., Ltd. (*6)	Korea	Information security service	SK Holdings Co., Ltd.	100.00%
SK ENCARSALES.COM Ltd.	Korea	On-line used car sales and others	SK Holdings Co., Ltd.	50.01%
SK C&C Beijing Co., Ltd.	China	Consulting for computer system integration	SK Holdings Co., Ltd.	100.00%
SK C&C Chengdu Co., Ltd.	China	Consulting for computer system integration	SK C&C Beijing Co., Ltd.	100.00%
SK C&C India Pvt. Ltd.	India	Consulting for computer system integration	SK Holdings Co., Ltd.	100.00%
SK MENA B.V.	Netherlands	Investment	SK Holdings Co., Ltd.	100.00%
SK S.E.Asia Pte. Ltd.	Singapore	Investment	SK Holdings Co., Ltd.	100.00%
ESSENCE Limited	Hong Kong	Manufacturing and distribution of semiconductor modules	SK S.E.Asia Pte. Ltd.	100.00%
ISD Technology (ShenZhen) Limited	China	Consulting for computer system integration	ESSENCE Limited	100.00%
S&G Technology	Saudi Arabia	Consulting for computer system integration	SK Holdings Co., Ltd.	51.00%
FSK L&S Co., Ltd.	Korea	Convergence logistics business	SK Holdings Co., Ltd.	60.00%
Saturn Agriculture Investment Co., Limited	Hong Kong	Investment	SK Holdings Co., Ltd.	100.00%
SK Biopharmaceuticals Co., Ltd.	Korea	Medicine and life science	SK Holdings Co., Ltd.	100.00%
SK Biotek Co., Ltd.	Korea	Drug medicine	SK Holdings Co., Ltd.	100.00%
SK Life Science, Inc.	USA	Life science	SK Biopharmaceuticals Co., Ltd.	100.00%
SK China Company, Ltd.	Hong Kong	Consulting and investment	SK Holdings Co., Ltd.	100.00%
SK China (Beijing) Co., Ltd.	China	Consulting	SK China Company, Ltd.	100.00%
SK Beijing Investment Management Ltd.	China	Real estate fund management	SK China (Beijing) Co., Ltd.	100.00%
SKY Property Mgmt (Beijing) Co., Ltd.	China	Real estate management	SK China Company, Ltd.	100.00%
SK Bio Energy Hong Kong Co., Ltd.	Hong Kong	Biomass electricity generation	SK China Company, Ltd.	69.40%
SK Property Investment Management Co., Ltd.	Hong Kong	Real estate investment	SK China Company, Ltd.	100.00%
SK Industrial Development China Co., Ltd.	Hong Kong	Investment	SK Property Investment Management Co., Ltd.	100.00%
Shanghai SKY Real Estate Development Co., Ltd.	China	Real estate investment	SK Industrial Development China Co., Ltd.	100.00%
SK International Supply Chain Management Co., Ltd.	Hong Kong	Distribution	SK China Company, Ltd.	100.00%
Ningde Sky Beverage Co., Ltd.	China	Mineral water development	SK International Supply Chain Management Co., Ltd.	80.00%
SK China Investment Management Co., Ltd.	Hong Kong	Real estate investment	SK China Company, Ltd.	100.00%
SK International Agro-Products Logistics Development Co., Ltd.	Hong Kong	Agriculture product logistics	SK China Investment Management Co., Ltd.	100.00%
SK Auto Service Hong Kong Co., Ltd.	Hong Kong	Holding Company	SK China Company, Ltd.	100.00%
SK (Shenyang) auto rental Co., Ltd.	China	Car rental	SK Auto Service Hong Kong Co., Ltd.	100.00%
SK (Beijing) auto rental Co., Ltd.	China	Car rental	SK Auto Service Hong Kong Co., Ltd.	100.00%
SK Rent-A-Car (Qingdao) Co., Ltd.	China	Car rental	SK Auto Service Hong Kong Co., Ltd.	100.00%
SKY Property Management Ltd.	Virgin Islands	Investment	SK Telecom Co., Ltd.	85.00%
SKY Investment Co., Ltd.	China	Real estate management	SKY Property Management Ltd.	100.00%
SK China Real Estate Co., Ltd.	Hong Kong	Real estate investment	SKY Property Management Ltd.	100.00%
SK China Creative Industry Development Co., Ltd.	China	Service	SKY Property Management Ltd.	100.00%
Gemini Partners Pte. Ltd.	Singapore	Consulting	SK Holdings Co., Ltd., SK Innovation Co., Ltd.	80.00%
Solaris Partners Pte. Ltd.	Singapore	Consulting	SK Telecom Co., Ltd., and SK E&S Co., Ltd.	100.00%
Beijing SK Magellan Capital Advisors Co., Ltd.	China	Investment consulting	Gemini Partners Pte. Ltd.	100.00%
SK GI Management	Cayman	Investment	Solaris Partners Pte. Ltd.	100.00%
			SK Holdings Co., Ltd.	100.00%

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**1.2 Consolidated subsidiaries (cont'd)**

Subsidiary	Domicile	Principal business activity	The largest shareholders	Equity ownership (*1)
SK MENA Investment B.V.	Netherlands	Investment	SK Telecom Co., Ltd.	100.00%
SK Latin America Investment S.A.	Spain	Investment	SK Telecom Co., Ltd.	100.00%
SK Technology Innovation Company	Cayman	Research and development	SK Telecom Co., Ltd.	96.88%
HAPPYNARAE Co., Ltd.	Korea	E-commerce	SK Telecom Co., Ltd., SK Innovation Co., Ltd.	90.00%
Suzhou HAPPYNARAE Co., Ltd.	China	Electrical and machine equipment and others	HAPPYNARAE Co., Ltd.	100.00%
SK Forest Co., Ltd.	Korea	Landscaping and planting business	SK Holdings Co., Ltd.	100.00%

- (\*1) The equity ownership is based on ordinary shares and includes indirect investments held by the consolidated subsidiaries.
- (\*2) SK Innovation Co., Ltd. and eight other companies are included in the consolidated financial statements as the Company is able to exercise de facto control. The remaining voting rights of SK Innovation Co., Ltd. and eight other companies are widely dispersed, so it is determined that the Company has voting rights to exercise de facto control.
- (\*3) The Group owns 100% of the ordinary shares of SK Incheon Petrochem Co., Ltd. and SK TNS Co., Ltd., but holds 68.0% and 52.2% of equity ownership respectively, due to the issuance of its preferred shares having voting rights.
- (\*4) SK Telink Co., Ltd., one of the subsidiaries, owns the shares of Neos Networks Co., Ltd. by exercising the purchase rights granted to non-controlling shareholders by the shareholders' agreements after contributing in kind the share of Neos Networks Co., Ltd. of SK Telecom Co., Ltd.. In addition, the equity ownership of SKC (Jiangsu) High tech Plastics Co., Ltd. is 100% due to a shareholders' agreement, which gives contractual rights to the non-controlling ownership.
- (\*5) The Group's equity ownership reduced from 100% to 98.1% due to share issuance to employee stock ownership association under the third-party allocation method.
- (\*6) During the current reporting period, the Group acquired the remaining equity ownership in shopkick Management Company, Inc. and 2 other companies.
- (\*7) Assets and liabilities of Daiyang SK Networks SAN. VE TIC. Ltd. STI and two other companies are classified as assets and liabilities held for sale, respectively (see Note 30 Non-current assets and non-current liabilities classified as held for sale).
- (\*8) During the current reporting period, the Group acquired 100% equity ownership of SK Magic Co., Ltd. and subsequently, classified SK Magic Co., Ltd. and its subsidiary as the Group's subsidiaries (see Note 38 Business combination).
- (\*9) The 70 consolidated restructuring entities were included in the consolidated financial statements. Regarding the terms of agreement, which are based on establishment of these entities, the Group substantially receives all of the returns related to their operations and net assets, and has the ability to direct these entities' activities in a way that most significantly affects these returns.
- (\*10) During the current reporting period, the Group acquired 49.1% equity ownership of SK Materials Co., Ltd. and subsequently, classified SK Materials Co., Ltd. and its four subsidiaries as the Group's subsidiaries (see Note 38 Business combination).

**1.3 Changes in consolidated subsidiaries**

Changes in the consolidated subsidiaries for the year ended December 31, 2016 are as follows:

December 31, 2015	Inclusion	Exclusion	December 31, 2016
277	28	(15)	290

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

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**1.3 Changes in consolidated subsidiaries (cont'd)**

For the year ended December 31, 2016, subsidiaries newly included in consolidation are as follows:

<u>Subsidiary</u>	<u>Reasons for changes</u>
SK Materials Co., Ltd., and its four subsidiaries, SK TNS Co., Ltd., Planet11 E-commerce Solutions India Pvt. Ltd., SK Magic Co. Ltd., SK Magic Service Co. Ltd., Hello Nature Co. Ltd.,	Acquisition (10 companies)
SK techx Co., Ltd., One store Co., Ltd., SK HOLDCO PTE. LTD., With Ocean L.L.C and six other special purpose companies for acquiring ship, YUKYUNGJIJU 1st L.L.C, SK Tri Chem Co.,Ltd., 11street (Thailand) Co., Ltd., MOKGAM SERVICE, FSK L&S Co., Ltd., Fajar Energy International Pte. Ltd., Saturn Agriculture Investment Co., Ltd., NEPTUNE SOLUTION L.L.C	Newly established (18 companies)

For the year ended December 31, 2016, subsidiaries excluded from consolidation are as follows:

<u>Subsidiary</u>	<u>Reasons for changes</u>
SK Continental E-motion Pte. Ltd., Wine Networks Ltd., Ecomax Co., Ltd., SK E&P Asia, Ltd., SK Steel Australia Pty. Ltd., Fitech Sector Limited Partnership IV, The Contents Company Co., Ltd., Fitech Focus Limited Partnership II, Open Innovation Fund, iriver America Inc.	Liquidation (10 companies)
Commerce Planet Co., Ltd., SKC lighting Co., Ltd.,	Merger (2 companies)
Candle Media Co., Ltd., Shanxi SK Guolin Asphalt Co., Ltd., SK Liaoning Construction Co., Ltd.	Disposal (3 companies)



**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**1.4 Condensed financial information of significant consolidated subsidiaries**

Details of condensed financial information of the significant subsidiaries as at and for the year ended December 31, 2016 are as follows (Korean won in millions):

Subsidiary	Total assets	Total liabilities	Sales	Net income (loss)
SK Innovation Co., Ltd.	₩13,561,838	₩ 1,351,076	₩ 1,199,715	₩ (344,199)
SK Energy Co., Ltd.	13,126,113	7,080,982	23,622,154	1,107,241
SK Global Chemical Co., Ltd.	5,739,332	1,909,932	8,827,168	650,768
SK Incheon Petrochem Co., Ltd.	5,480,336	3,027,190	5,033,813	216,568
SK Trading International Co., Ltd.	1,528,669	717,752	2,683,932	121,550
SK Lubricants Co., Ltd.	2,249,787	886,283	2,271,497	296,087
SK Global Chemical International Trading (Shanghai) Co., Ltd.	198,260	106,023	889,032	6,856
SK Energy International Pte. Ltd.	2,044,426	1,469,031	16,173,443	(25,319)
SK Energy Europe, Ltd.	380,291	260,013	3,790,870	(17,683)
SK Energy Americas, Inc.	114,704	40,450	918,705	3,396
SK Lubricants Americas, Inc.	172,578	121,371	415,911	5,367
SK Lubricants Europe B.V.	134,888	128,178	447,598	1,373
Iberian Lube Base Oils S.A.	407,391	159,272	349,810	9,856
SK E&P America, Inc.	438,345	54,606	-	(108,026)
SK Telecom Co., Ltd.	25,448,574	11,191,620	12,350,479	1,217,274
SK Telink Co., Ltd.	440,956	122,741	406,930	61,585
SK Broadband Co., Ltd.	3,523,494	2,376,429	2,942,976	21,526
PS&Marketing Corp.	546,803	328,846	1,679,735	11,908
SK Planet Co., Ltd. (*1)	1,935,663	834,151	1,177,323	(30,959)
SK Networks Co., Ltd.	7,892,426	5,536,067	17,333,737	(69,306)
SK Networks (Shanghai) Co., Ltd.	89,905	64,239	551,547	878
SK Magic Co. Ltd. (*2)	419,947	251,603	43,312	3,829
SKC Co., Ltd.	2,695,397	1,152,788	1,380,830	87,738
SK Telesys Co., Ltd.	156,541	230,070	350,534	3,769
SKC, Inc.	432,286	307,841	297,598	(12,930)
SK Shipping Co., Ltd.	4,076,462	3,898,419	1,147,626	(473,982)
SK B&T Pte. Ltd.	212,890	94,024	649,752	(19,781)
SK E&S Co., Ltd.	3,733,249	1,581,949	475,978	49,771
Yeongnam Energy Service Co., Ltd.	376,268	182,336	591,571	28,137
Ko-one Energy Service Co., Ltd.	748,494	375,213	1,023,728	16,175
Narae Energy Service Co., Ltd.	759,353	584,470	294,559	(10,993)
Pusan City Gas Co., Ltd.	836,336	291,916	886,882	49,691
Chungcheong Energy Service Co., Ltd.	273,439	158,212	415,969	18,286
Paju Energy Service Co., Ltd. (formerly, PMP Co., Ltd.)	1,437,571	660,197	-	(6,111)
Wirye Energy Service Co., Ltd.	699,107	476,189	8,620	(7,373)
SK E&S Americas, Inc.	577,161	158,006	-	(5,663)
DewBlaine Energy, L.L.C	579,831	4,450	34,310	(3,368)
SK Engineering & Construction Co., Ltd.	5,608,905	4,661,693	7,182,121	(62,618)
Sunlake Co., Ltd.	113,202	74,103	1,244,624	21,938
SK Materials Co., Ltd. (*2, *3)	903,110	465,971	398,376	86,205
ESSENCORE Limited (*3)	210,668	91,392	669,903	64,277
SK China Company, Ltd.	491,486	7,621	5,222	13,443
SKY Property Management Ltd. (*3)	638,873	57,361	64,894	52,647
HAPPYNARAE Co., Ltd.	109,153	88,643	446,824	178

(\*1) The condensed financial information of SK Planet Co., Ltd. includes profit or loss of Commerce Planet Co., Ltd. prior to the merger.

(\*2) Sales and net income are the amounts occurring after business combinations.

(\*3) The condensed financial information is consolidated financial information.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**1.5 Disclosure of significant non-controlling interests in subsidiaries**

Information about significant non-controlling interests in subsidiaries as at and for the year ended December 31, 2016 is as follows (Korean won in millions):

Segment	December 31, 2016						
	SK Innovation Co., Ltd.	SK Telecom Co., Ltd.	SK Networks Co., Ltd.	SKC Co., Ltd.	SK Shipping Co., Ltd.	SK E&S Co., Ltd.	SK Engineering & Construction Co., Ltd.
Percentage of the non-controlling ownership	66.86%	71.16%	60.88%	57.30%	16.92%	-	53.79%
Current assets	14,987,716	5,996,628	3,418,741	801,499	730,329	1,360,456	4,039,429
Non-current assets	17,593,615	25,301,035	5,201,575	2,727,340	4,399,843	6,454,128	1,843,071
Current liabilities	8,736,547	6,444,099	4,357,755	862,621	1,884,446	1,548,844	4,031,358
Non-current liabilities	5,539,739	8,737,134	1,857,025	1,142,297	3,242,028	3,256,805	1,019,589
Net assets	18,305,045	16,116,430	2,405,536	1,523,921	3,698	3,008,935	831,553
Book value of the non-controlling interests	12,786,125	11,225,218	1,655,599	940,162	117,463	1,200,167	636,145
Sales	39,520,539	17,091,816	18,457,381	2,379,287	1,643,400	4,044,763	8,583,442
Net income (loss)	1,721,434	1,660,101	(81,572)	29,263	(512,081)	198,374	(30,947)
Total comprehensive income (loss)	1,711,245	1,412,770	(75,204)	44,505	(508,511)	167,819	(9,072)
Net income (loss) of the non-controlling interests	1,182,956	931,685	(89,144)	5,963	(68,098)	58,112	(12,655)
Total comprehensive income (loss) of the non-controlling interests	1,179,302	945,418	(69,889)	20,692	(87,854)	67,192	(9,678)
Net cash flows from operating activities	3,677,754	4,243,168	14,579	249,102	300,023	167,350	193,700
Net cash flows used in investing activities	(2,056,094)	(2,462,208)	(563,338)	(3,908)	(723,930)	(656,554)	(318,771)
Net cash flows from (used in) financing activities before dividends paid to the non-controlling interests	(1,719,489)	(525,232)	132,788	(162,590)	305,639	671,944	(38,225)
Dividends paid to the non-controlling interests	(299,123)	(519,597)	(15,118)	(19,216)	(10,701)	(44,464)	-
Net increase (decrease) in cash and cash equivalents	(396,952)	736,131	(431,089)	63,388	(128,969)	138,276	(163,296)

The aforementioned condensed financial information is consolidated financial information of each subsidiary and non-controlling interests include hybrid bonds.

**2. Summary of significant accounting policies**

The Group maintains its official accounting records in Korean won and prepares consolidated financial statements in conformity with the Korean International Financial Reporting Standards ("KIFRS"), in the Korean language. Accordingly, these consolidated financial statements are intended for use by those who are informed about KIFRS and Korean practices. The accompanying consolidated financial statements have been restructured and translated into English with certain expanded descriptions from the Korean language financial statements. Certain information included in the Korean language consolidated financial statements, but not required for a fair presentation of the consolidated financial position, comprehensive income, changes in shareholders' equity or cash flows of the Group, is not presented in the accompanying consolidated financial statements.

## **2. Summary of significant accounting policies (cont'd)**

The accompanying consolidated financial statements are stated in Korean won, the currency of the country in which the Company is incorporated and operates. The translation of Korean won amounts into U.S. dollar amounts is included solely for the convenience of readers of the financial statements and has been made at the rate of ₩1,208.50 to USD 1.00, the basic exchange rate in the Seoul Money Brokerage Service for cable transfers in Korean won on the last business day of the year ended December 31, 2016. Such translations into U.S. dollar should not be construed as representations that the Korean won amounts could be converted into U.S. dollar at that or any other rate.

### **2.1 Basis of preparation**

The Group has prepared the consolidated financial statements in accordance with KIFRS.

The significant accounting policies used for the preparation of the accompanying consolidated financial statements as at and for the year ended December 31, 2016, are the same as the accounting policies adopted for the preparation of consolidated financial statements as at and for the year ended December 31, 2015, except for adoption of new and revised KIFRSs applied in the current period, which are summarized below.

The accompanying consolidated financial statements have been prepared on a historical cost basis, except for certain non-current assets and financial instruments that are measured at fair value. Historical cost is based on the fair values of the consideration given.

The accompanying consolidated financial statements were approved at the Company's Board of Directors' meeting on February 9, 2017.

The principal accounting policies are set out below:

#### **2.1.1 New and revised KIFRSs adopted in the current period**

The Group has applied amendments to KIFRS issued that are mandatorily effective for accounting periods beginning on or after January 1, 2016.

##### **Amendments to KIFRS 1001 – *Presentation of Financial Statements***

The amendments clarify materiality and aggregation, and the requirements that apply when additional subtotals are presented in the statement of financial position and the statement of profit or loss, the order presenting the notes to the financial statements, and the presentation of other comprehensive income ("OCI") of associates and joint ventures accounted for using the equity method.

##### **Amendments to KIFRS 1016 – *Property, Plant and Equipment***

The amendments clarify the principle in KIFRS 1016 that the revenue-based depreciation method cannot be used to depreciate property, plant and equipment.

##### **Amendments to KIFRS 1038 – *Intangible Assets***

The amendments clarify the principle in KIFRS 1038 that revenue reflects a pattern of economic benefits that are generated from operating a business (of which the asset is part) rather than the economic benefits that are consumed through use of the asset. As a result, a revenue-based method may only be used in very limited circumstances to amortize intangible assets.

##### **Amendments to KIFRS 1110, KIFRS 1112 and KIFRS 1028 – *Investment Entities***

The amendments allow the investor, when applying the equity method, to retain the fair value measurement applied by the investment entity associate or joint venture to its interest in subsidiaries.

### **2.1.1 New and revised KIFRSs adopted in the current period (cont'd)**

#### **Amendments to KIFRS 1111 – Accounting for Acquisitions of Interests in Joint Operations**

The amendments to KIFRS 1111 require that a joint operator accounting for the acquisition of an interest in a joint operation, in which the activity of the joint operation constitutes a business, must apply the relevant KIFRS 1103 *Business Combinations* principles for business combination accounting. The amendments also clarify that a previously held interest in a joint operation is not remeasured on the acquisition of an additional interest in the same joint operation if joint control is retained.

The adoption of the above amendments does not have a material impact on the Group's financial position and financial performance.

### **2.1.2 New and revised KIFRS issued, but not yet effective**

The Group has not applied the following new and revised KIFRS that have been issued, but are not yet effective:

#### **KIFRS 1109 – Financial Instruments**

The main features of KIFRS 1109 include: a business model for the managing financial assets; classification and measurement of financial assets based on contractual cash flow characteristics of financial assets; an impairment model for financial instruments based on expected credit losses; the hedged item that meet the requirements of hedge accounting, increases in hedging instruments, or changes in the evaluation method for hedge effectiveness. KIFRS 1109 replaces KIFRS 1039 *Financial Instruments: Recognition and Measurement*, which is effective for annual periods beginning on or after January 1, 2018.

The effective implementation of the standard will likely require analyses on financial effects, establishment of accounting policies, development of an accounting system, and stabilization of the system. The effect on the financial statements for the first-time adoption of the standard may differ depending on the selection and judgment of accounting policies in accordance with the standard, as well as the Group's financial instruments and economic conditions during the period.

The Group plans to make changes to its internal control procedures or the accounting system related to reporting financial instruments upon the adoption of the standard. Also, the Group plans to complete an analysis of the effect of the standard on its consolidated financial statements by December 31, 2017; however, the general effects of the standard, by major items, on the financial statements are as follows:

#### **2.1.2.1 Classification and measurement of financial assets**

KIFRS 1109 requires the Group to classify financial instruments as subsequently measured at amortized cost, fair value through other comprehensive income (FVOCI), or fair value through profit or loss (FVTPL), on the basis of the holder's business model and instrument's contractual cash flow characteristics. Hybrid contracts with hosts that are assets, are classified in their entirety instead of bifurcating the embedded derivatives.

The requirements for classifying the financial assets as measured at amortized cost or FVOCI under KIFRS 1109 are more stringent than the requirements of the current KIFRS 1039; as a result, the increase in proportion of financial assets subject to FVTPL measurement may increase the volatility in profit or loss upon adoption of KIFRS 1109.

As at December 31, 2016, the Group has loans and receivables of ₩25,012,808 million, available-for-sale financial assets of ₩1,706,540 million, financial assets at FVTPL of ₩104,018 million and held-to-maturity investments of ₩937 million.

### **2.1.2.2 Classification and measurement of financial liabilities**

Based on the new KIFRS 1109, changes in the fair value of a financial liability designated as measured at FVTPL that arise from changes in the liability's credit risk are presented in other comprehensive income, instead of profit or loss. The changes in the liability's credit risk are recognized in profit or loss if the changes create or enlarge an accounting mismatch had it been presented in other comprehensive income.

Some of the changes in the fair value of financial liabilities designated as at FVTPL, which were recognized in profit or loss under the current KIFRS 1039, are presented in other comprehensive income; therefore, gains and losses on valuation of financial liabilities may decrease.

As at December 31, 2016, the Group has financial liabilities that are carried at cost of ₩51,034,834 million and financial liabilities at FVTPL of ₩184,831 million.

### **2.1.2.3 Impairment: financial assets and contract assets**

Under the current KIFRS 1039, impairment losses are recognized when there is objective evidence of impairment based on an incurred loss model; however, under KIFRS 1109, impairment losses are recognized on debt instruments, lease receivables, contract assets, loan commitment, and financial guarantee contracts that were accounted for at amortized cost, or FVOCI, based on an expected credit loss impairment model.

KIFRS 1109 outlines a three-stage model for 12-month expected credit losses, or lifetime expected credit losses based on changes in credit risk since initial recognition of financial assets; as a result, credit losses can be recognized earlier than the current KIFRS 1039.

As at December 31, 2016, the Group has ₩13,950,840 million of loans and receivables measured at amortized cost, nil of available-for-sales financial assets, and ₩777,198 million as loss allowances for these assets.

### **2.1.2.4 Hedge accounting**

KIFRS 1109 applies mechanics of hedge accounting (fair value hedge accounting, cash flow hedge, foreign entities net investment hedge) specified in the current KIFRS 1039; however, the Group changed from the complex and rule-based hedge accounting requirements of KIFRS 1039 to the principle-based approach which focuses on the risk management activities. Requirements for application of hedge accounting are relaxed by enlarging items designated as hedges and hedging instruments, evaluating the high risk avoidance effects, and eliminating the quantitative criteria (80 ~ 125%).

Upon application of hedge accounting of KIFRS 1109, some transactions that do not meet the criteria for hedge accounting of the current KIFRS 1039 may be accounted for using the hedge accounting; therefore, volatility in profit or loss may be reduced.

As at December 31, 2016, the Group owns derivative financial assets and liabilities designated as hedging instruments of ₩299,173 million and ₩182,350 million, respectively. Meanwhile, the Group owns derivative financial assets and liabilities not designated as hedging instruments, amounting to ₩104,018 million and ₩125,231 million, respectively.

### **KIFRS 1115 – Revenue from Contracts with Customers**

Under KIFRS 1115, revenue is recognized at an amount that reflects the consideration to which an entity expects to be entitled in exchange for transferring goods or services to a customer. The new revenue standard will supersede all current revenue recognition requirements under KIFRS. Either a full retrospective application or a modified retrospective application of the standard is required for annual periods beginning on or after January 1, 2018.

#### **2.1.2.4 Hedge accounting (cont'd)**

The current KIFRS 1018 provides the criteria for the recognition of revenue relating to: sale of goods, rendering of services, interest, royalties, dividends and construction contracts; however, under the new KIFRS 1115, revenue is recognized by applying a five-stage revenue recognition model (① Identify a contract with a customer. → ② Identify the performance obligations in the contract → ③ Determine the transaction price → ④ Allocate the transaction price to the performance obligations in the contract → ⑤ Recognize revenue when the entity satisfies a performance obligation) to its all contracts with customers.

As at December 31, 2016, the Group plans to make changes to its internal control procedures or the accounting system related to the adoption of KIFRS 1115 and to complete an analysis of the effect of KIFRS 1115 on its consolidated financial statements are as follows. However, they do not include all of the possible effects of the standard can be changed upon completion of the analysis:

##### **2.1.2.4.1 Identification of the separate performance obligations in the contract**

The Group is engaged in providing petroleum, chemicals and resources development, telecommunications, and others

IT services should be accounted for separately. The Group should allocate the transaction price to each performance obligation in a contract in proportion to its stand-alone selling price.

##### **2.1.2.4.2 Allocation of the transaction price to the separate performance obligations**

In accordance with KIFRS 1115, the Group should allocate the transaction price to each performance obligation in a contract in proportion to its stand-alone selling price. To estimate the transaction price to each performance obligation, the Group will use the adjusted market assessment approach. However, in some circumstances, the expected cost plus a margin approach will be used.

#### **Amendments to KIFRS 1007 – *Statement of Cash Flows***

The amendments to KIFRS 1007 are part of the IASB's Disclosure Initiative and require an entity to provide disclosures that enable users of financial statements to evaluate changes in liabilities arising from financing activities, including both changes arising from cash flows and non-cash changes. These amendments are effective for annual periods beginning on or after 1 January 2017, with early application permitted.

#### **Amendments to KIFRS 1012 – *Income Taxes***

The amendments clarify that an entity needs to consider whether tax law restricts the sources of taxable profits against which it may make deductions on the reversal of that deductible temporary difference. Furthermore, the amendments provide guidance on how an entity should determine future taxable profits and explain the circumstances in which taxable profit may include the recovery of some assets for more than their carrying amount.

Entities are required to apply the amendments retrospectively. However, on initial application of the amendments, the change in the opening equity of the earliest comparative period may be recognized in the opening retained earnings (or in another component of equity, as appropriate), without allocating the change between opening retained earnings and other components of equity. Entities applying this relief must disclose that fact. These amendments are effective for annual periods beginning on or after 1 January 2017, with early application permitted.

#### **2.1.2.4.2 Allocation of the transaction price to the separate performance obligations (cont'd)**

##### **Amendments to KIFRS 1102 – *Share-based Payment***

The IASB issued amendments to KIFRS 1102 *Share-based Payment* that addresses three main areas: the effects of vesting conditions on the measurement of a cash-settled share-based payment transaction; the classification of a share-based payment transaction with net settlement features for withholding tax obligations; and accounting where a modification to the terms and conditions of a share-based payment transaction changes its classification from cash settled to equity settled. These amendments are effective for annual periods beginning on or after 1 January 2018, with early application permitted.

The Group is currently assessing the impact of adoption of the above standards and interpretation.

## **2.2 Basis of consolidation**

The consolidated financial statements incorporate the financial statements of the Company and entities controlled by the Company and its subsidiaries. Control is achieved where the Company 1) has the power over the investee, 2) is exposed, or has rights, to variable returns from its involvement with the investee, and 3) has the ability to use its power to affect its returns. The Company reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control listed above.

When the Company has less than a majority of the voting rights of an investee, it has power over the investee when the voting rights are sufficient to give it the practical ability to direct the activities of the investee unilaterally. The Company considers all relevant facts and circumstances in assessing whether or not the Company's voting rights in an investee are sufficient to give it power, including:

- the size of the Company's holding of voting rights relative to the size and dispersion of holdings of the other vote holders;
- potential voting rights held by the Company, other vote holders or other parties;
- rights arising from other contractual arrangements; and
- any additional facts and circumstances that indicate that the Company has, or does not have, the current ability to direct the relevant activities at the time that decisions need to be made, including voting patterns at previous stockholders' meetings.

Income and expenses of subsidiaries acquired or disposed of during the year are included in the consolidated statement of comprehensive income from the date the Company gains control until the date when the Company ceases to control the subsidiary. Profit or loss and each component of OCI are attributed to the owners of the Company and to the non-controlling interests. Total comprehensive income of subsidiaries is attributed to the owners of the Company and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with the Group's accounting policies.

All intragroup transactions and related assets and liabilities, income and expenses are eliminated in full on consolidation.

Changes in the Group's ownership interests in subsidiaries that do not result in the Group losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the Group's interests and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity and attributed to owners of the Company.

## **2.2 Basis of consolidation (cont'd)**

When the Group loses control of a subsidiary, a gain or loss on disposal is calculated as the difference between (i) the aggregate of the fair value of the consideration received and the fair value of any retained interest and (ii) the previous carrying amount of the assets (including goodwill), and liabilities of the subsidiary and any non-controlling interests. When assets of the subsidiary are carried at revalued amounts or fair values and the related cumulative gain or loss has been recognized in OCI and accumulated in equity, the amounts previously recognized in OCI and accumulated in equity are accounted for as if the Company had directly disposed of the relevant assets (i.e., reclassified to profit or loss or transferred directly to retained earnings).

## **2.3 Business combinations**

Business combinations are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the fair values of the assets transferred by the Group, liabilities incurred by the Group to the former owners of the acquiree and the equity interests issued by the Group in exchange for control of the acquiree. Acquisition-related costs are generally recognized in profit or loss as incurred.

Goodwill is initially measured at cost, being the excess of the aggregate of the consideration transferred and the amount recognized for non-controlling interests, and any previous interest held, over the net identifiable assets acquired and liabilities assumed. If the fair value of the net assets acquired is in excess of the aggregate consideration transferred, the Group re-assesses whether it has correctly identified all of the assets acquired and all of the liabilities assumed and reviews the procedures used to measure the amounts to be recognized at the acquisition date. If the re-assessment still results in an excess of the fair value of net assets acquired over the aggregate consideration transferred, then the gain is recognized in profit or loss.

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period (see above), or additional assets or liabilities are recognized, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognized at that date.

## **2.4 Foreign currencies**

The individual financial statements of each entity are presented in the currency of the primary economic environment in which the entity operates (its functional currency). For the purpose of the consolidated financial statements, the results and financial position of each entity are expressed in Korean won, which is the functional currency of the entity and the presentation currency for the consolidated financial statements.

In preparing the consolidated financial statements of the individual entities, transactions in currencies other than the entity's functional currency (foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.



## **2.4 Foreign currencies (cont'd)**

Exchange differences are recognized in profit or loss in the period in which they arise, except for:

- Exchange differences on foreign currency borrowings relating to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings,
- Exchange differences on transactions entered into in order to hedge certain foreign currency risks, and
- Exchange differences on monetary items receivable from or payable to a foreign operation for which settlement is neither planned nor likely to occur (therefore forming part of the net investment in the foreign operation), which are recognized initially in OCI and reclassified from equity to profit or loss on disposal or partial disposal of the net investment

For the purpose of presenting the consolidated financial statements, the assets and liabilities of the Group's foreign operations are expressed in Korean won using exchange rates prevailing at the end of the reporting period. Income and expense items are translated at the average exchange rates for the period, unless exchange rates fluctuated significantly during that period, in which case the exchange rates at the dates of the transactions are used. Exchange differences arising, if any, are recognized in OCI and accumulated in equity. On the disposal of a foreign operation, all of the accumulated exchange differences in respect of that operation attributable to the owners of the Group are reclassified to profit or loss.

## **2.5 Cash and cash equivalents**

Cash and cash equivalents include cash, bank balances and short-term highly liquid investments with an original maturity of three months or less.

## **2.6 Financial assets**

Financial assets are recognized when an entity becomes a party to the contractual provisions of the instruments. Financial assets are initially measured at fair value. Transaction costs that are directly attributable to the acquisition of financial assets are added to the fair value of the financial assets, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets at fair value through profit or loss ("FVTPL") are recognized immediately in profit or loss.

Financial assets are classified into the following specified categories: 'financial assets at FVTPL', 'held-to-maturity investments', 'available-for-sale ("AFS") financial assets' and 'loans and receivables.' The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition.

### **2.6.1 Financial assets at FVTPL**

Financial assets are classified as at FVTPL when the financial asset is either held for trading or it is designated as at FVTPL. A financial asset is classified as held for trading if it has been acquired principally for the purpose of selling in the near term or it is a derivative or embedded derivative separated from contracts that is not designated and effective as a hedging instrument. Financial assets at FVTPL are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss.

### **2.6.2 Held-to-maturity investments**

Non-derivatives financial assets with fixed or determinable payments and fixed maturity dates that the Group has the positive intent and ability to hold to maturity are classified as held-to-maturity investments. Held-to-maturity investments are measured at amortized cost using the effective interest method, less any impairment, with revenue recognized on an effective yield basis.

### **2.6.3 AFS financial assets**

AFS financial assets are non-derivatives that are either designated as AFS or are not classified as (a) loans and receivables, (b) held-to-maturity investments or (c) financial assets at FVTPL. They are subsequently measured at fair value at the end of each reporting period. Changes in the carrying amount of AFS financial assets are recognized in OCI (as gain or loss on valuation of AFS financial assets). When the investment is disposed of or is determined to be impaired, the cumulative gain or loss previously accumulated in OCI is reclassified to profit or loss.

Dividends on AFS equity instruments are recognized in profit or loss when the Group's right to receive the dividends is established.

AFS equity investments that do not have a quoted market price in an active market and whose fair value cannot be reliably measured and derivatives that are linked to, and must be settled by, delivery of such unquoted equity investments are measured at cost, less any identified impairment losses at the end of each reporting period.

### **2.6.4 Loans and receivables**

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market. Loans and receivables including trade and other receivables, bank balances and cash are measured at amortized cost using the effective interest method, less any impairment.

### **2.6.5 Impairment of financial assets**

Financial assets, other than those at FVTPL, are assessed for indicators of impairment at the end of each reporting period. Financial assets are considered to be impaired when there is objective evidence that one or more events have occurred after the initial recognition of the financial asset and the estimated future cash flows of the investment have been affected.

For AFS equity investments, a significant or prolonged decline in the fair value of the security below its cost is considered to be objective evidence of impairment.

For certain categories of financial asset, such as trade accounts receivable, assets that are assessed not to be impaired individually are, in addition, assessed for impairment on a collective basis. Objective evidence of impairment for a portfolio of receivables could include the Group's past experience of collecting payments and an increase in the number of delayed payments in the portfolio past the average credit period, as well as observable changes in national or local economic conditions that correlate with default on receivables.

For financial assets carried at amortized cost, the amount of the impairment loss recognized is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate. For financial assets measured at amortized cost, if, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed through profit or loss to the extent that the carrying amount of the investment at the date the impairment is reversed does not exceed what the amortized cost would have been had the impairment not been recognized.

For financial assets that are carried at cost and whose fair value cannot be reliably measured, the amount of the impairment loss recognized is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the current market rate of return for a similar financial asset. Such impairment loss will not be reversed in subsequent periods.

### **2.6.5 Impairment of financial assets (cont'd)**

When an AFS financial asset is considered to be impaired, cumulative gains or losses previously recognized in OCI are reclassified to profit or loss in the period. In respect of AFS equity securities, impairment losses previously recognized in profit or loss are not reversed through profit or loss. Any increase in fair value subsequent to an impairment loss is recognized in OCI. In respect of AFS debt securities, impairment losses are subsequently reversed through profit or loss if an increase in the fair value of the investment can be objectively related to an event occurring after the recognition of the impairment loss.

### **2.6.6 Derecognition of financial assets**

The Group derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognizes its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognize the financial asset and also recognize a collateralized borrowing for the proceeds received.

On derecognition of a financial asset in its entirety, the difference between the asset's carrying amount and the sum of the consideration received and receivable and the cumulated gain or loss that had been recognized in OCI and accumulated in equity is recognized in profit or loss.

## **2.7 Inventories**

Inventories are measured at the lower of cost and net realizable value. Cost of inventories, except for materials in in-transit and work in progress (specific identification), are measured under the gross average method, moving average method or first-in first-out method and consists of the purchase price, cost of conversion and other costs incurred in bringing the inventories to their present location and condition. Net realizable value represents the estimated selling price for inventories, less all estimated costs of completion and costs necessary to make the sale.

When inventories are sold, the carrying amount of those inventories is recognized as an expense (cost of sales) in the period in which the related revenue is recognized. The amount of any write-down of inventories to net realizable value and all losses of inventories are recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realizable value, is recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.

## **2.8 Investments in associates and joint ventures**

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee, but is not control or joint control over those policies.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

## **2.8 Investments in associates and joint ventures (cont'd)**

The results and assets and liabilities of associates or joint ventures are incorporated in these consolidated financial statements using the equity method of accounting, except when the investment is classified as held for sale, in which case it is accounted for in accordance with KIFRS 1105, *Non-current Assets Held for Sale and Discontinued Operations*. Under the equity method, an investment in an associate or a joint venture is initially recognized in the consolidated statement of financial position at cost and adjusted thereafter to recognize the Group's share of the profit or loss and OCI of the associate or joint venture. When the Group's share of losses of an associate or a joint venture exceeds the Group's interest in that associate or joint venture (which includes any long-term interests that, in substance, form part of the Group's net investment in the associate or joint venture), the Group discontinues recognizing its share of further losses. Additional losses are recognized only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate or joint venture.

Any excess of the cost of acquisition over the Group's share of the net fair value of the identifiable assets, liabilities and contingent liabilities of an associate or a joint venture recognized at the date of acquisition is recognized as goodwill, which is included within the carrying amount of the investment.

When the Group transacts with its associate or a joint venture, profits and losses resulting from the transactions with the associate or joint venture are recognized in the Group's consolidated financial statements only to the extent of interests in the associate or joint venture that are not related to the Group.

## **2.9 Interests in joint operations**

A joint operation is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

The Group accounts for the assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with the KIFRSs applicable to the particular assets, liabilities, revenues and expenses.

When a group entity transacts with a joint operation in which a group entity is a joint operator (such as a sale or contribution of assets), the Group is considered to be conducting the transaction with the other parties to the joint operation, and gains and losses resulting from the transactions are recognized in the Group's consolidated financial statements only to the extent of other parties' interests in the joint operation.

When a group entity transacts with a joint operation in which a group entity is a joint operator (such as a purchase of assets), the Group does not recognize its share of the gains and losses until it resells those assets to a third party.

## **2.10 Property, plant and equipment**

Property, plant and equipment is stated at cost, less subsequent accumulated depreciation and accumulated impairment losses. The cost of an item of property, plant and equipment is directly attributable to its purchase or construction, which includes any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. It also includes the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Subsequent costs are recognized in the carrying amount of an asset or as a separate asset if it is probable that future economic benefits associated with the assets will flow into the Group and the cost of an asset can be measured reliably. Routine maintenance and repairs are expensed as incurred.

## 2.10 Property, plant and equipment (cont'd)

The Group does not depreciate land. Depreciation expense is computed using the straight-line method based on the estimated useful lives of the assets as follows:

Description	Useful lives (years)	Description	Useful lives (years)
Buildings	10 ~ 60	Machinery and equipment	3 ~ 40
Structures	4 ~ 50	Vehicles	1 ~ 20
Ships and vessels	6 ~ 25	Others	2 ~ 40

The Group reviews the depreciation method, the estimated useful lives and residual values of property, plant and equipment at the end of each annual reporting period. If expectations differ from previous estimates, the changes are accounted for as a change in an accounting estimate.

An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on derecognition of the property (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in profit or loss in the period in which the property is derecognized.

## 2.11 Goodwill

Goodwill resulting from an acquisition of a business is carried at cost as established at the date of acquisition of the business less accumulated impairment losses, if any.

For the purpose of impairment testing, goodwill is allocated to each of the Group's cash-generating units that is expected to benefit from the synergies of the combination.

A cash-generating unit ("CGU") to which goodwill has been allocated is tested for impairment annually, or more frequently when there is indication that the unit may be impaired. If the recoverable amount of the CGU is less than its carrying amount, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit on a pro-rata basis based on the carrying amount of each asset in the unit. Any impairment loss for goodwill is recognized directly in profit or loss. An impairment loss recognized for goodwill is not reversed in subsequent periods.

## 2.12 Intangible assets

Intangible assets are measured initially at cost and, subsequently, are carried at cost, less accumulated amortization and accumulated impairment losses. The cost of intangible asset acquired in a business combination, separately from goodwill, is its fair value at the acquisition date and shall be carried at its cost less any accumulated amortization and any accumulated impairment losses.

Amortization of development cost, industrial property rights and other intangible assets is calculated on a straight-line basis over the estimated useful lives of intangible assets from the date that they are available for use. The residual value is zero. Development cost for petroleum resource is amortized by the unit of production method based on the amount of proved reserves. However, intangible assets with indefinite useful lives such as membership and brand contract-related assets are not amortized as there is no foreseeable limit to the period over which the asset is expected to use.

Description	Useful lives (years)	Description	Useful lives (years)
Development costs	3 ~ 10	Developed technology	5 ~ 14
Customer-related assets	3 ~ 25	Others	3 ~ 50

## **2.12 Intangible assets (cont'd)**

The useful lives of intangible assets are assessed as either finite or indefinite. Intangible assets with finite lives are amortized over the useful economic life. The amortization period and the amortization method for an intangible asset with a finite useful life are reviewed at the end of each annual reporting period. If expectations differ from previous estimates, the changes are accounted for as a change in an accounting estimate. Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually.

### **2.12.1 Development cost for petroleum resource**

The Group accounts for expenditures with high probability of future economic benefits related to the acquisition costs of assets, exploration and evaluation, and development activities as intangible assets.

Expenditures for exploration and evaluation of oil and natural gas are related to geographical, geological, geochemical, geophysical research, and prospect for commercialization. Development expenditures are related to the construction of various production equipment and drilling oil wells. Impairment testing is performed when the carrying amount of the intangible asset exceeds the estimated recoverable amounts.

Oil-producing fields refer to those which acquired the permission of development for reserves with economic benefits. The cost of an item of oil-producing fields includes the costs directly attributable to its purchase, construction, other expenditures for production, and the estimated costs of provision for restoration. The Group amortizes oil-producing fields by the unit of production method based on the amount of proved reserves.

### **2.12.2 Research and development**

Expenditures on research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, are recognized in profit or loss as incurred. Development expenditures are capitalized only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Other development expenditures are recognized in profit or loss as incurred.

### **2.12.3 Subsequent expenditures**

Subsequent expenditures are capitalized only when they increase the future economic benefits embodied in the specific asset to which they relate. All other expenditures, including expenditures on internally generated goodwill and brands, are recognized in profit or loss as incurred.

## **2.13 Impairment of tangible and intangible assets other than goodwill**

At the end of each reporting period, the Group reviews the carrying amounts of its tangible and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss. When it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the CGU to which the asset belongs.

Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment at least annually, and whenever there is an indication that the asset may be impaired. Recoverable amount is the higher of fair value, less costs to sell and value in use. If the recoverable amount of an asset (or a CGU) is estimated to be less than its carrying amount, the carrying amount of the asset (or the CGU) is reduced to its recoverable amount and the reduced amount is recognized in profit or loss.

## **2.14 Investment property**

Investment properties are properties held to earn rentals and for capital appreciation. Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are reported at cost, less accumulated depreciation and accumulated impairment losses.

Subsequent costs are recognized in carrying amount of an asset or as a separate asset if it is probable that the future economic benefits associated with the assets will flow into the Group and the cost of an asset can be measured reliably. Routine maintenance and repairs are expensed as incurred.

The Group does not depreciate land. Depreciation expense is computed using the straight-line method based on the estimated useful lives of the assets as follows:

<u>Description</u>	<u>Useful lives (years)</u>	<u>Description</u>	<u>Useful lives (years)</u>
Buildings	10 ~ 60	Structures	4 ~ 50

The Group reviews the depreciation method, the estimated useful lives and residual values of investment properties at the end of each annual reporting period. If expectations differ from previous estimates, the changes are accounted for as a change in accounting estimate.

## **2.15 Borrowing costs**

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale. Investment income earned on the temporary investment of specific borrowings, pending their expenditure on qualifying assets, is deducted from the borrowing costs eligible for capitalization. All other borrowing costs are recognized in profit or loss in the period in which they are incurred.

## **2.16 Government grants**

Government grants are not recognized until there is reasonable assurance that the Group will comply with the conditions attaching to them and that the grants will be received.

Government grants related to assets are presented in the statement of financial position by deducting the grant from the carrying amount of the asset. The related grant is recognized in profit or loss over the life of a depreciable asset as a reduced depreciation expense.

Government grants related to income are recognized in profit or loss on a systematic basis over the periods in which the Group recognizes as expenses the related costs for which the grants are intended to compensate. Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognized in profit or loss in the period in which they become receivable.

## **2.17 Non-current assets held for sale**

Non-current assets (or disposal groups) are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the non-current asset (or disposal group) is available for immediate sale in its present condition. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

## **2.17 Non-current assets held for sale (cont'd)**

When the Group is committed to a sale plan involving loss of control of a subsidiary, all of the assets and liabilities of that subsidiary are classified as held for sale when the criteria described above are met, regardless of whether the Group will retain a non-controlling interest in its former subsidiary after the sale.

When the Group is committed to a sale plan involving disposal of an investment, or a portion of an investment, in an associate or joint venture, the investment or the portion of the investment that will be disposed of is classified as held for sale when the criteria described above are met, and the Group discontinues the use of the equity method in relation to the portion that is classified as held for sale. Any retained portion of an investment in an associate or a joint venture that has not been classified as held for sale continues to be accounted for using the equity method. The Group discontinues the use of the equity method at the time of disposal when the disposal results in the Group losing significant influence over the associate or joint venture.

Non-current assets (or disposal groups) classified as held for sale are measured at the lower of their previous carrying amount or fair value, less costs to sell.

## **2.18 Discount (premium) on bonds**

Discount (premium) on bonds is presented as a direct deduction from (addition to) the nominal value of the bonds and is amortized using the effective interest rate method over the lives of the bonds.

## **2.19 Lease**

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

The Group as a lessor

Amounts due from lessees under finance leases are recognized as receivables at the amount of the Group's net investment in the leases. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the Group's net investment outstanding in respect of the leases.

Rental income from operating leases is recognized on a straight-line basis over the term of the relevant lease. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized on a straight-line basis over the lease term.

### **2.19.1 The Group as a lessee**

Assets held under finance leases are initially recognized as assets of the Group at their fair value at the inception of the lease or, if lower, at the present value of the minimum lease payments. The corresponding liability to the lessor is included in the statement of financial position as a finance lease obligation.

Lease payments are apportioned between finance expenses and reduction of the lease obligation so as to achieve a constant rate of interest on the remaining balance of the liability. Finance expenses are recognized immediately in profit or loss, unless they are directly attributable to qualifying assets, in which case they are capitalized in accordance with the Group's general policy on borrowing costs. Contingent rentals are recognized as expenses in the periods in which they are incurred.



## **2.20 Financial liabilities and equity instruments**

### **2.20.1 Classification as debt or equity**

Debt and equity instruments are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangement and the definitions of financial liability and an equity instrument.

### **2.20.2 Equity instruments**

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Group are recognized as the proceeds are received, net of direct issue costs.

Repurchase of the Group's own equity instruments is recognized and deducted directly in equity. No gain or loss is recognized in profit or loss on the purchase, sale, issue or cancellation of the Group's own equity instruments.

### **2.20.3 Compound instruments**

The component parts of compound instruments (convertible bonds) issued by the Group are classified separately as financial liabilities and equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and equity instrument. Conversion option that will be settled by the exchange of a fixed amount of cash or another financial asset for a fixed number of the Group's own equity instruments is an equity instrument.

At the date of issue, the fair value of the liability component is estimated using the prevailing market interest rate for a similar non-convertible instrument. This amount is recorded as a liability on an amortized cost basis using the effective interest method until extinguished upon conversion or at the instrument's maturity date.

The conversion option classified as equity is determined by deducting the amount of the liability component from the fair value of the compound instrument as a whole. This is recognized and included in equity, net of income tax effects, and is not subsequently remeasured. In addition, the conversion option classified as equity will remain in equity until the conversion option is exercised, in which case, the balance recognized in equity will be transferred to share premium. No gain or loss is recognized in profit or loss upon conversion or expiration of the conversion option.

Transaction costs that relate to the issue of the convertible notes are allocated to liability and equity components in proportion to the allocation of the gross proceeds. Transaction costs relating to equity component are recognized directly in equity. Transaction costs relating to the liability component are included in the carrying amount of the liability component and are amortized over the lives of the convertible notes using the effective interest method.

### **2.20.4 Financial liabilities**

Financial liabilities are recognized when the Group becomes a party to the contractual provisions of the instruments. Financial liabilities are initially measured at fair value. Transaction costs that are directly attributable to the issue of financial liabilities are deducted from the fair value of the financial liabilities on initial recognition. Transaction costs directly attributable to acquisition of financial liabilities at FVTPL are recognized immediately in profit or loss.

Financial liabilities are classified as either financial liabilities at FVTPL or other financial liabilities.

#### **2.20.4.1 Financial liabilities at FVTPL**

Financial liabilities are classified as at FVTPL when the financial liability is either held for trading or it is designated as FVTPL. Financial liabilities at FVTPL are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss. The net gain or loss recognized in profit or loss incorporates any interest paid on the financial liability and is included in financial income and costs in the statement of comprehensive income.

#### **2.20.4.2 Other financial liabilities**

Other financial liabilities are subsequently measured at amortized cost using the effective interest method, with interest expense recognized on an effective yield basis.

#### **2.20.5 Financial guarantee contracts**

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due in accordance with the terms of debt instruments.

Financial guarantee contract liabilities are initially measured at their fair values and, if not designated as at FVTPL, are subsequently measured at the higher of:

- the amount of the obligation under the contract, as determined in accordance with KIFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets*, or
- the amount initially recognized, less cumulative amortization recognized in accordance with the KIFRS 1018 *Revenue*.

#### **2.20.6 Derecognition of financial liabilities**

The Group derecognizes financial liabilities when the Group's obligations are discharged, canceled or expire. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable is recognized in profit or loss.

#### **2.21 Retirement benefit costs**

Contributions to defined contribution retirement benefit plans are recognized as an expense when employees have rendered service entitling them to the contributions.

For defined benefit retirement benefit plans, the cost of providing benefits is determined using the projected unit credit method, with actuarial valuations being carried out at the end of each reporting period. Remeasurement, comprising actuarial gains and losses, the effect of the changes to the asset ceiling (if applicable) and the return on plan assets (excluding interest), is reflected immediately in the separate statement of financial position with a charge or credit recognized in OCI in the period in which it occurs. Remeasurement recognized in OCI is reflected immediately in retained earnings and will not be reclassified to profit or loss. Past service cost is recognized in profit or loss in the period of a plan amendment. Net interest is calculated by applying the discount rate at the beginning of the period to the net defined benefit liability or asset. Defined benefit costs are composed of service cost (including current service cost and past service cost, as well as gains and losses on curtailments and settlements), net interest expense (income) and remeasurement.

The Group presents the service cost and net interest expense (income) components in profit or loss, and the remeasurement component in OCI. Curtailment gains and losses are accounted for as past service costs.

## **2.22 Share-based payment arrangements**

Equity-settled share-based payments to employees and others providing similar services are measured at the fair value of the equity instruments at the grant date.

The fair value determined at the grant date of the equity-settled share-based payments is expensed on a straight-line basis over the vesting period, based on the Group's estimate of equity instruments that will eventually vest. At the end of each reporting period, the Group revises its estimate of the number of equity instruments expected to vest. The impact of the revision of the original estimates, if any, is recognized in profit or loss such that the cumulative expense reflects the revised estimate, with a corresponding adjustment in other component of equity as the equity-settled employee benefits reserve.

Equity-settled share-based payment transactions with parties other than employees are measured at the fair value of the goods or services received, except where that fair value cannot be estimated reliably, in which case they are measured at the fair value of the equity instruments granted, measured at the date the entity obtains the goods or the counterparty renders the service.

For cash-settled share-based payments, a liability is recognized for the goods or services acquired, measured initially at the fair value of the liability. At the end of each reporting period until the liability is settled, and at the date of settlement, the fair value of the liability is remeasured, with any changes in fair value recognized in profit or loss for the year.

## **2.23 Provision**

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that the Group will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation.

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material).

At the end of each reporting period, the remaining provision balance is reviewed and assessed to determine if the current best estimate is being recognized. If the existence of an obligation to transfer economic benefit is no longer probable, the related provision is reversed during the period.

### **2.23.1 Provision for warranties**

A provision for warranties is recognized when the underlying products or services are sold. The provision is based on historical warranty data and a weighting of all possible outcomes against their associated probabilities.

### **2.23.2 Provision for installment of handset subsidies**

The Group provides lump-sum handset subsidies to customers who agree to use the Group's service for a predetermined service period and the subsidies are charged to commission paid expense as the related payments are made. When customers agree to use the Group's service for a predetermined service period and purchase handsets on an installment basis, the subsidies are paid every month over the installment period and the Group estimates a provision for handset subsidies to be paid, which is recognized as commissions expense at the time telecommunication service contracts are made.

### **2.23.3 Provision for service/construction warranties**

If the Group has an obligation to repair the product after selling the product or providing the service, the Group estimates the warranty expense based on the repair period and the past experience rate.

### **2.23.4 Provision for restoration**

Provision for restoration of contaminated area is recognized in the related costs in accordance with published environmental policy and appropriate legal requirements of the Group.

### **2.23.5 Provision for onerous contracts**

A provision for onerous contracts is recognized when the expected benefits to be derived by the Group from a contract are lower than the unavoidable costs of meeting its obligations under the contract. The provision is measured at the present value of the lower of the expected cost of terminating the contract and the expected net cost of continuing with the contract. Before a provision is established, the Group recognizes any impairment loss on the assets associated with that contract.

### **2.23.6 Greenhouse gas emissions**

The Group classifies the emission allowances that it receives from the government free of charge as intangible assets, measures them at nil ("0"), and measures any purchased emission allowances at cost. A liability (emission obligation) is measured at nil ("0") only where the allocated emission allowances by the government free of charge are enough to settle the obligation arisen from actual emissions. However, if actual emissions exceed the allocated emission allowances, the amount recognized as a liability is the best estimate of expenditures, as at the end of a reporting period, in performing emission obligations exceeding the above emission allowances.

A provision shall be used only for expenditures for which the provision was originally recognized.

## **2.24 Derivative financial instruments**

The Group enters into foreign exchange forward contracts to manage its exposure to foreign exchange rate risk. Derivatives are initially recognized at fair value at the date the derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately, unless the derivative is designated and effective as a hedging instrument, in such case the timing of the recognition in profit or loss depends on the nature of the hedge relationship.

### **2.24.1 Hedge accounting**

The Group designates certain hedging instruments, which include derivatives, embedded derivatives and non-derivatives in respect of foreign currency risk, as either fair value hedges, cash flow hedges or hedges of net investments in foreign operations. Hedges of foreign exchange risk on firm commitments are accounted for as cash flow hedges.

At the inception of the hedge relationship, the entity documents the relationship between the hedging instrument and the hedged item, along with its risk management objectives and its strategy for undertaking various hedge transactions. Furthermore, at the inception of the hedge and on an ongoing basis, the Group documents whether the hedging instrument is highly effective in offsetting changes in fair values or cash flows of the hedged item.

#### **2.24.2 Fair value hedges**

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk. The change in the fair value of the hedging instrument and the change in the hedged item attributable to the hedged risk are recognized in the line of the statement of comprehensive income relating to the hedged item.

Hedge accounting is discontinued when the Group revokes the hedging relationship, when the hedging instrument expires or is sold, terminated or exercised, or when it no longer qualifies for hedge accounting. The fair value adjustment to the carrying amount of the hedged item arising from the hedged risk is amortized to profit or loss from that date.

#### **2.24.3 Cash flow hedges**

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in OCI. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss, and is included in the financial income and financial costs.

Hedge accounting is discontinued when the Group revokes the hedging relationship, when the hedging instrument expires or is sold, terminated or exercised, or it no longer qualifies for hedge accounting. Any gain or loss accumulated in equity at that time remains in equity and is recognized when the forecast transaction is ultimately recognized in profit or loss. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in equity is recognized immediately in profit or loss.

#### **2.24.4 Embedded derivatives**

Derivatives embedded in non-derivative host contracts are treated as separate derivatives when they meet the definition of a derivative, their risks and characteristics are closely related to those of the host contracts and the contracts are not measured at FVTPL. Changes in the fair value of separable embedded derivatives are recognized immediately in profit or loss.

### **2.25 Revenue recognition**

Revenue is measured at the fair value of the consideration received or receivable. Revenue is reduced for estimated customer returns, rebates and other similar allowances. The Group recognizes revenue when the amount of revenue can be reliably measured; when it is probable that the future economic benefits will flow to the entity; and when specific criteria have been met for each of the Group's activities, as described below:

#### **2.25.1 Sale of goods**

Revenue from sale of goods is recognized when all of the following conditions are satisfied:

- the Group has transferred to the buyer the significant risks and rewards of ownership of the goods
- the Group retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold
- the amount of revenue can be measured reliably
- it is probable that the economic benefits associated with the transaction will flow to the Group
- the costs incurred or to be incurred in respect of the transaction can be measured reliably

#### **2.25.2 Rendering of services**

Revenue from a contract to provide services is recognized by reference to the stage of completion of the contract. The percentage of completion is assessed by surveys of work performed.

### **2.25.3 Construction contracts**

When the outcome of a construction contract can be estimated reliably, contract revenue and costs are recognized in profit or loss in proportion to the stage of completion of the contract. Contract revenue includes the initial amount agreed in the contract, plus any variation in contract work, claims and incentive payments, to the extent that it is probable that they will result in revenue and can be measured reliably. The stage of completion of a contract is determined based on the proportion of contract costs incurred for work performed to date to the estimated total contract costs.

Where the outcome of a construction contract cannot be estimated reliably, contract revenue is recognized only to the extent that it is probable that contract costs incurred will be recoverable. Contract costs are recognized as expenses in the period in which they are incurred. When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognized as an expense immediately.

### **2.25.4 Commissions**

When the Group acts in the capacity of an agent rather than as the principal in a transaction, the revenue recognized is the net amount of commission made by the Group.

### **2.25.5 Rental income and others**

Rental income from investment property is recognized in profit or loss on a straight-line basis over the term of the lease. Lease incentives granted are recognized as an integral part of the total rental income, over the term of the lease. Rental income from subleased property is recognized as other income.

## **2.26 Income tax**

Income tax expense represents the sum of the tax currently payable and deferred tax. Current and deferred tax are recognized in profit or loss, except when they relate to items that are recognized in OCI or directly in equity, in which case, the current and deferred tax are also recognized in OCI or directly in equity.

### **2.26.1 Current tax**

The tax currently payable is based on taxable profit for the year. Taxable profit differs from profit as reported in the separate statement of profit or loss and comprehensive income because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

### **2.26.2 Deferred tax**

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the separate financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences to the extent it is probable that taxable profits will be available against which those deductible temporary differences can be utilized. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates and interests in joint ventures, except where the Group is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

### **2.26.2 Deferred tax (cont'd)**

Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognized to the extent it is probable that there will be sufficient taxable profits against which the benefits of the temporary differences can be utilized and they are expected to reverse in the foreseeable future. The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset if, and only if, the Group has a legally enforceable right to set off current tax assets against current tax liabilities, and the deferred tax assets and liabilities relate to income taxes are levied by the same taxation authority on either the same taxable entity or different taxable entities that intend either to settle current tax liabilities and assets on a net basis, or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

### **2.26.3 Current tax and deferred tax for the year**

Current tax and deferred tax are recognized in profit or loss, except when they relate to items that are recognized in OCI or directly in equity, in which case the current tax and deferred tax are also recognized in OCI or directly in equity. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

### **2.27 Fair value**

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Group takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date.

Fair value for measurement and/or disclosure purposes in these separate financial statements is determined on such a basis, except for share-based payment transactions that are within the scope of KIFRS 1102 *Share-based Payment*; leasing transactions that are within the scope of KIFRS 1017 *Leases*; and measurements that have some similarities to fair value, but are not fair value, such as net realizable value in KIFRS 1002 *Inventories* or value in use in KIFRS 1036 *Impairment of Assets*.

In addition, for financial reporting purposes, fair value measurements are categorized into Level 1, 2 or 3, based on the degree to which the inputs to the fair value measurements are observable and the significance of the inputs to the fair value measurement in its entirety, which are described as follows:

- Level 1: inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date;
- Level 2: inputs are inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly; and
- Level 3: inputs are unobservable inputs for the asset or liability.

### **3. Significant accounting judgements, estimates and assumptions**

When preparing the consolidated financial statements, management is required to make judgments, estimates and assumptions that affect the reported amount of assets, liabilities, revenues and expenses. Actual results may be different from those estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period or in the period of the revision and future periods if the revision affects both current and future periods.

The following are the key assumptions concerning the future, and other key sources of estimation uncertainty at the end of the reporting period, that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year:

#### **3.1 Impairment of non-financial assets**

The Group assesses at each reporting date, whether there is an indication of impairment of its non-financial assets. If any indication exists, or annually, intangible assets with indefinite useful lives including brand contract-related asset are tested for impairment. Other non-financial assets are tested for impairment when there is an indication that the carrying amount of an asset is not recoverable. In assessing value in use, management estimates future cash flows of the assets or CGU and determines an appropriate discount rate to calculate the present value of the estimated future cash flows.

#### **3.2 Valuation of financial instruments**

Subsequent to initial recognition, AFS financial assets are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss or OCI. Where the fair value of financial assets and financial liabilities recorded in the consolidated statements of financial position cannot be derived from active markets, the Group uses valuation techniques that require the management's judgments on the expected future cash flows and discount rates.

#### **3.3 Bad debt allowance for trade receivables, loans and other receivables**

The Group estimates a bad debt allowance for trade receivables, loans and other receivables, based on the aging of accounts receivables and past experience of bad debt, as well as observable changes in economic and industrial conditions that correlate with default on receivables.

#### **3.4 Measurement and useful lives of tangible and intangible assets**

If the Group acquires property and equipment or intangible assets from business combination, it is required to estimate the fair value of these assets at the acquisition date. For estimating the useful lives of tangible and intangible assets, significant management judgment is required.

#### **3.5 Defined benefit plan**

The Group's defined benefit obligation is determined based on the actuarial valuation carried out at the end of each annual reporting period. Actuarial assumptions are the Group's best estimates of the variables in determining the cost of providing post-retirement benefits, such as discount rates, rates of expected future salary increases and mortality rates. Significant estimation uncertainty is likely to persist in making such assumptions due to the long-term nature of post-retirement benefit plan.

#### **3.6 Deferred tax assets**

Recognition and measurement of deferred tax assets and liabilities requires significant management judgment. Especially, when determining if deferred tax assets will be realizable or not in the future, it involves significant management assumptions and judgment on the Group's future performance.



**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**4. Operating segments**

(1) Overview of operating segments

The Group makes decisions on resources to be allocated to business segments and divides the business segments based on the internal reports which the chief operating decision maker periodically reviews to evaluate the performances of the sales segments. As SK Holdings Co., Ltd. was acquired during the current reporting period, details of changes to segment operations of each segment are as follows:

Operating segments	Business
SK Innovation Co., Ltd.	Refining, chemical, and resources development
SK Telecom Co., Ltd.	Telecommunication
SK Networks Co., Ltd.	Network, information communication, trade, and energy marketing
SKC Co., Ltd.	Chemical, film, and information communication
SK Shipping Co., Ltd.	Sea transportation, and ocean bunkering and others
SK E&S Co., Ltd.	Gas and energy
SK Engineering & Construction Co., Ltd.	Civil engineering, housing, plant and others
Others	IT services, security service, special gas manufacturing and sale, medicine and life science and others

(2) Details of financial information for each operating segment as at and for the years ended December 31, 2016 and 2015 are as follows (Korean won in billions):

As at and for the year ended December 31, 2016										
	SK Innovation Co., Ltd.	SK Telecom Co., Ltd.	SK Networks Co., Ltd.	SKC Co., Ltd.	SK Shipping Co., Ltd.	SK E&S Co., Ltd.	SK Engineering & Construction Co., Ltd.	Others	Consolidation adjustments (*1)	Total
Total sales	₩ 39,521	₩ 17,092	₩ 18,457	₩ 2,379	₩ 1,643	₩ 4,045	₩ 8,583	₩ 5,251	₩ (13,354)	₩83,617
Internal sales	(4,665)	(77)	(5,110)	(405)	(299)	(46)	(646)	(2,106)	13,354	-
Net sales	34,856	17,015	13,347	1,974	1,344	3,999	7,937	3,145	-	83,617
Net income (loss) before income taxes	2,423	2,096	50	124	(496)	254	(37)	1,015	(1,053)	4,376
Net income (loss)	1,721	1,660	(82)	29	(512)	198	(31)	903	(1,064)	2,822
Total assets	32,581	31,298	8,620	3,529	5,130	7,815	5,883	22,452	(14,261)	103,047
Total liabilities	14,276	15,181	6,215	2,005	5,126	4,806	5,051	7,361	700	60,721
Depreciation	799	2,380	167	120	148	198	46	168	26	4,052
Amortization	115	688	9	5	3	8	7	28	298	1,161

As at and for the year ended December 31, 2015										
	SK Innovation Co., Ltd.	SK Telecom Co., Ltd.	SK Networks Co., Ltd.	SKC Co., Ltd.	SK Shipping Co., Ltd.	SK E&S Co., Ltd.	SK Engineering & Construction Co., Ltd.	Others	Consolidation adjustments (*1)	Total
Total sales	₩ 18,611	₩ 7,236	₩ 8,710	₩ 1,017	₩ 814	₩ 1,685	₩ 4,159	₩ 2,899	₩ (5,831)	₩39,300
Internal sales	(2,045)	(48)	(2,178)	(167)	(155)	(16)	(571)	(651)	5,831	-
Net sales	16,566	7,188	6,532	850	659	1,669	3,588	2,248	-	39,300
Net income (loss) before income taxes	(81)	830	77	30	8	59	73	6,498	(1,206)	6,288
Net income (loss)	(420)	575	61	10	8	44	45	5,900	(674)	5,549
Total assets	31,360	28,581	8,203	3,688	4,736	7,101	6,127	20,551	(13,713)	96,634
Total liabilities	14,314	13,207	5,684	2,132	4,214	4,077	5,362	6,584	983	56,557
Depreciation	343	1,003	59	56	60	70	26	55	41	1,713
Amortization	66	270	6	3	1	4	3	9	125	487

(\*1) Consolidation adjustments of the parent company, excluding consolidation adjustments of each subsidiary.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**4. Operating segments (cont'd)**

(3) Details of financial information by geographical location as at and for the years ended December 31, 2016 and 2015 (Korean won in billions):

	As at and for the year ended December 31, 2016							Consolidation adjustments	Total
	Korea	Asia	Europe	North America	South America	Others			
Total sales	₩ 100,457	₩ 21,377	₩ 4,865	₩ 3,181	₩ -	₩ 95	₩ (46,358)	₩ 83,617	
Operation income	6,402	66	(81)	7	-	25	(1,121)	5,298	
Income (loss) before income taxes	4,920	109	(110)	(200)	9	52	(404)	4,376	
Net income (loss)	3,592	41	(111)	(215)	9	47	(541)	2,822	
Total assets	126,046	6,890	1,439	3,164	1,054	1,231	(36,777)	103,047	
Total liabilities	58,632	2,995	1,007	917	1,018	252	(4,100)	60,721	

	As at and for the year ended December 31, 2015							Consolidation adjustments	Total
	Korea	Asia	Europe	North America	South America	Others			
Total sales	₩ 47,793	₩ 10,648	₩ 2,353	₩ 1,531	₩ -	₩ 67	₩ (23,092)	₩ 39,300	
Operation income	2,608	51	2	4	-	(15)	(1,243)	1,407	
Income (loss) before income taxes	8,158	77	(16)	(574)	-	(22)	(1,335)	6,288	
Net income (loss)	6,863	58	(19)	(581)	-	(2)	(770)	5,549	
Total assets	119,169	6,083	1,395	2,748	227	1,448	(34,436)	96,634	
Total liabilities	53,869	2,646	910	876	190	496	(2,430)	56,557	

**5. Acquisitions and disposals of subsidiaries and non-controlling interest**

**5.1 Acquisitions of significant subsidiaries**

Acquisitions of significant subsidiaries during the current reporting period are as follows:

**5.1.1 Acquisition of shares of SK Materials Co., Ltd.**

The Company acquired 49.1% of SK Materials Co., Ltd.'s shares. In accordance with this, SK Materials Co., Ltd. and its four subsidiaries were included in consolidation.

**5.1.2 Acquisition of shares of SK HOLDCO Pte. Ltd.**

SK HOLDCO Pte. Ltd. has been classified as a subsidiary, as SK Engineering & Construction Co., Ltd. has acquired 71.96% shares of SK HOLDCO Pte. Ltd. by contributing in kind all the shares of Eurasia Tunnel, its associate. Meanwhile, after being included in consolidation, SK HOLDCO Pte. Ltd. issued new shares unevenly many times, and thus the equity interests of share of SK Engineering & Construction Co., Ltd. changed from 71.96% to 61.14%.

**5.1.3 Acquisition of control over SK TNS Co., Ltd.**

The equity interests of SK Engineering & Construction Co., Ltd., a subsidiary of the Group, increased from 50.0% to 52.2% because SK TNS Co., Ltd., which is engaged in information and communication technology, redeemed certain redeemable convertible preference shares with voting rights. Subsequently, SK Engineering & Construction Co., Ltd. acquired power over SK TNS Co., Ltd. and SK TNS Co., Ltd. was included in consolidation of SK Engineering & Construction Co., Ltd.

#### **5.1.4 Acquisition of SK Magic Co., Ltd.'s share**

During the current reporting period, SK Networks Co., Ltd., a subsidiary of the Group, acquired 100% of SK Magic Co., Ltd (formerly, TONGYANG MAGIC Inc.), which is engaged in household appliances manufacturing and rent, and subsequently, SK Magic Co., Ltd. and SK Magic Service Co., Ltd., its subsidiary, were included in SK Network Co., Ltd.'s consolidation.

#### **5.2 Disposal of subsidiaries**

Disposals of significant subsidiaries are as follows:

1) The Company sold the entire share of Candle Media Co., Ltd., which produces movies and videos, at ₩39,500 million to the third party, and excluded the entity from consolidation.

#### **5.3 Other significant capital transaction**

1) Issuance of hybrid bond by Paju Energy Service Co., Ltd. (formerly, PMP Co., Ltd.)  
Paju Energy Service Co., Ltd., a subsidiary, has issued bond of junior claim at par, amounting to ₩77,600 million. Paju Energy Service Co., Ltd. (formerly, PMP Co., Ltd.) has classified it as equity as Paju Energy Service Co., Ltd. does not have contractual obligation for the delivery of financial assets to its counterparty.

2) Share issuance of SK Planet Co., Ltd. under the third-party allocation method.  
SK Planet Co., Ltd., a subsidiary of the Group, issued new shares to employee stock ownership association under the third-party allocation method. Due the issuance, the equity interests of SK Telecom Co., Ltd. decreased from 100% to 98.1%, and non-controlling interests of the consolidated entity increased by ₩25,587 million.

3) Acquisition and disposal of treasury shares of SKC Co., Ltd.  
SKC Co., Ltd., a subsidiary of the Group, acquired 1,256,442 shares of treasury shares to stabilize stock price and enhance stockholder's value, and resold 51,600 shares of the treasury shares. Subsequently, the Company's effective ownership interests in SKC Co., Ltd. increased by 1.38% and non-controlling interests of the consolidated entity decreased by ₩23,727 million.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**6. Financial instruments**

**6.1 Financial assets**

Details of financial assets as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016					
	Financial assets at FVTPL	Held-to-maturity investments	Loans and receivables	Available-for-sale financial assets	Financial assets designated as hedging instruments	Total
<b>Current assets:</b>						
Cash and cash equivalents	₩ -	₩ -	₩ 7,086,957	₩ -	₩ -	₩ 7,086,957
Short-term financial instruments	-	-	4,265,992	-	-	4,265,992
Trade accounts receivable (*1)	-	-	9,611,793	-	-	9,611,793
Other accounts receivable	-	-	1,828,941	-	-	1,828,941
Short-term loans	-	-	239,915	-	-	239,915
Accrued income	-	-	23,782	-	-	23,782
Available-for-sale financial assets	-	-	-	179,448	-	179,448
Held-to-maturity investments	-	67	-	-	-	67
Guarantee deposits	-	-	192,214	-	-	192,214
Derivative financial assets	59,673	-	-	-	91,490	151,163
Finance lease receivables	-	-	79,896	-	-	79,896
	<u>59,673</u>	<u>67</u>	<u>23,329,490</u>	<u>179,448</u>	<u>91,490</u>	<u>23,660,168</u>
<b>Non-current assets:</b>						
Long-term financial instruments	-	-	131,033	-	-	131,033
Long-term trade accounts receivable	-	-	24,188	-	-	24,188
Long-term other accounts receivable	-	-	205,584	-	-	205,584
Long-term loans	-	-	314,455	-	-	314,455
Available-for-sale financial assets	-	-	-	1,527,092	-	1,527,092
Held-to-maturity investments	-	870	-	-	-	870
Guarantee deposits	-	-	732,770	-	-	732,770
Derivative financial assets	44,345	-	-	-	207,683	252,028
Finance lease receivables	-	-	275,288	-	-	275,288
	<u>44,345</u>	<u>870</u>	<u>1,683,318</u>	<u>1,527,092</u>	<u>207,683</u>	<u>3,463,308</u>
	<u>₩ 104,018</u>	<u>₩ 937</u>	<u>₩ 25,012,808</u>	<u>₩ 1,706,540</u>	<u>₩ 299,173</u>	<u>₩ 27,123,476</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**6.1 Financial assets (cont'd)**

	December 31, 2015					Total
	Financial assets at FVTPL	Held-to-maturity investments	Loans and receivables	Available-for-sale financial assets	Financial assets designated as hedging instruments	
<b>Current assets:</b>						
Cash and cash equivalents	₩ -	₩ -	₩ 6,995,224	₩ -	₩ -	₩ 6,995,224
Short-term financial instruments	-	-	2,741,181	-	-	2,741,181
Trade accounts receivable (*1)	-	-	9,133,437	-	-	9,133,437
Other accounts receivable	-	-	1,654,688	-	-	1,654,688
Short-term loans	-	-	252,541	-	-	252,541
Accrued income	-	-	51,198	-	-	51,198
Available-for-sale financial assets	-	-	-	153,340	-	153,340
Held-to-maturity investments	-	45	-	-	-	45
Guarantee deposits	-	-	187,958	-	-	187,958
Derivative financial assets	84,897	-	-	-	187,319	272,216
Finance lease receivables	-	-	74,107	-	-	74,107
	<u>84,897</u>	<u>45</u>	<u>21,090,334</u>	<u>153,340</u>	<u>187,319</u>	<u>21,515,935</u>
<b>Non-current assets:</b>						
Long-term financial instruments	-	-	212,987	-	-	212,987
Long-term trade accounts receivable	-	-	45,251	-	-	45,251
Long-term other accounts receivable	-	-	117,161	-	-	117,161
Long-term loans	-	-	239,397	-	-	239,397
Available-for-sale financial assets	-	-	-	1,906,664	-	1,906,664
Held-to-maturity investments	-	915	-	-	-	915
Guarantee deposits	-	-	624,592	-	-	624,592
Derivative financial assets	30,817	-	-	-	166,748	197,565
Finance lease receivables	-	-	345,545	-	-	345,545
	<u>30,817</u>	<u>915</u>	<u>1,584,933</u>	<u>1,906,664</u>	<u>166,748</u>	<u>3,690,077</u>
	<u>₩ 115,714</u>	<u>₩ 960</u>	<u>₩ 22,675,267</u>	<u>₩ 2,060,004</u>	<u>₩ 354,067</u>	<u>₩ 25,206,012</u>

(\*1) Unbilled receivables amounting to ₩786,678 million and ₩1,044,469 million as at December 31, 2016 and 2015, respectively, are not included in the financial instruments.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**6.2 Financial liabilities**

Details of financial liabilities as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016			
	Financial liabilities at FVTPL	Other financial liabilities	Financial liabilities designated as hedging instruments	Total
<b>Current liabilities:</b>				
Short-term borrowings	₩ -	₩ 2,614,117	₩ -	₩ 2,614,117
Trade accounts payable	-	8,897,260	-	8,897,260
Other accounts payable	-	3,241,765	-	3,241,765
Current portion of long-term debt	-	5,629,577	-	5,629,577
Accrued expenses	-	2,480,547	-	2,480,547
Dividends payable	-	614	-	614
Leasehold deposits received	-	125,157	-	125,157
Derivative financial liabilities	112,950	-	143,123	256,073
Finance lease liabilities	-	1,747	-	1,747
	<u>112,950</u>	<u>22,990,784</u>	<u>143,123</u>	<u>23,246,857</u>
<b>Non-current liabilities:</b>				
Bonds payable and long-term borrowings	59,600	23,073,906	-	23,133,506
Long-term other accounts payable	-	4,601,776	-	4,601,776
Leasehold deposits received	-	357,384	-	357,384
Derivative financial liabilities	12,281	-	39,397	51,678
Finance lease liabilities	-	1,864	-	1,864
Financial guarantee liabilities	-	9,120	-	9,120
	<u>71,881</u>	<u>28,044,050</u>	<u>39,397</u>	<u>28,155,328</u>
	<u>₩ 184,831</u>	<u>₩ 51,034,834</u>	<u>₩ 182,520</u>	<u>₩ 51,402,185</u>

	December 31, 2015			
	Financial liabilities at FVTPL	Other financial liabilities	Financial liabilities designated as hedging instruments	Total
<b>Current liabilities:</b>				
Short-term borrowings	₩ -	₩ 2,726,701	₩ -	₩ 2,726,701
Trade accounts payable	-	7,430,851	-	7,430,851
Other accounts payable	-	2,392,058	-	2,392,058
Current portion of long-term debt	-	5,493,380	-	5,493,380
Accrued expenses	-	2,563,103	-	2,563,103
Dividends payable	-	2,369	-	2,369
Leasehold deposits received	-	135,830	-	135,830
Derivative financial liabilities	19,116	-	83,255	102,371
Finance lease liabilities	-	1,756	-	1,756
	<u>19,116</u>	<u>20,746,048</u>	<u>83,255</u>	<u>20,848,419</u>
<b>Non-current liabilities:</b>				
Bonds payable and long-term borrowings	155,704	23,340,599	-	23,496,303
Long-term other accounts payable	-	3,034,627	-	3,034,627
Leasehold deposits received	-	247,265	-	247,265
Derivative financial liabilities	17,381	-	120,322	137,703
Finance lease liabilities	-	3,603	-	3,603
Financial guarantee liabilities	-	12,076	-	12,076
	<u>173,085</u>	<u>26,638,170</u>	<u>120,322</u>	<u>26,931,577</u>
	<u>₩ 192,201</u>	<u>₩ 47,384,218</u>	<u>₩ 203,577</u>	<u>₩ 47,779,996</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**6.3 Gain and loss by category of financial instruments**

Details of gain and loss by category of financial instruments for the years ended in December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the year ended December 31, 2016						
	Dividends income	Interest income	Interest expense	Gain (loss) on foreign currency	Gain (loss) on derivatives instruments	Reversal (impairment) and gain (loss) on disposals	Total
Financial assets at FVTPL	₩ -	₩ -	₩ -	₩ -	₩ 264,834	₩ -	₩ 264,834
Held-to-maturity investments	-	727	-	12	-	-	739
Loans and receivables	-	191,911	-	100,430	-	(248,163)	44,178
Available-for-sale financial assets	39,859	9,575	-	(313)	-	42,857	91,978
Financial assets designated as hedging instruments	-	-	-	-	66,074	-	66,074
Financial liabilities at FVTPL	-	-	-	-	(342,095)	-	(342,095)
Other financial liabilities	-	-	(799,259)	(157,012)	-	-	(956,271)
Financial liabilities designated as hedging instruments	-	-	-	(32,325)	(120,594)	-	(152,919)
	<u>₩ 39,859</u>	<u>₩ 202,213</u>	<u>₩(799,259)</u>	<u>₩ (89,208)</u>	<u>₩ (131,781)</u>	<u>₩ (205,306)</u>	<u>₩(983,482)</u>

  

	For the year ended December 31, 2015						
	Dividends income	Interest income	Interest expense	Gain (loss) on foreign currency	Gain (loss) on derivatives instruments	Reversal (impairment) and gain (loss) on disposals	Total
Financial assets at FVTPL	₩ -	₩ -	₩ -	₩ -	₩ 500,115	₩ -	₩ 500,115
Held-to-maturity investments	-	1,133	-	126	-	-	1,259
Loans and receivables	-	77,486	-	(26,095)	-	(473,786)	(422,395)
Available-for-sale financial assets	28,311	1,719	-	(61)	-	(152,606)	(122,637)
Financial assets designated as hedging instruments	-	-	-	-	(70,274)	-	(70,274)
Financial liabilities at FVTPL	-	-	-	-	(328,186)	-	(328,186)
Other financial liabilities	-	-	(353,559)	(56,574)	-	-	(410,133)
Financial liabilities designated as hedging instruments	-	-	-	-	(15,386)	-	(15,386)
	<u>₩ 28,311</u>	<u>₩ 80,338</u>	<u>₩(353,559)</u>	<u>₩ (82,604)</u>	<u>₩ 86,269</u>	<u>₩ (626,392)</u>	<u>₩(867,637)</u>

**6.4 Fair values of financial instruments by hierarchy level**

1) Fair values and book values of financial instruments as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016		December 31, 2015	
	Book value	Fair value	Book value	Fair value
Bonds payable	₩ 23,755,427	₩ 23,795,522	₩ 24,739,685	₩ 24,353,528
Borrowings	7,621,773	7,603,575	6,976,699	6,879,976

The fair value of bonds payable and borrowings was measured as the present value of the contractually determined stream of future cash flows discounted at the market interest rate (2.07%~4.41%) regarding residual market risks. As the book values of other financial assets and other financial liabilities are reasonable approximations to fair values, the fair values have not been disclosed.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**6.4 Fair values of financial instruments by hierarchy level (cont'd)**

2) Details of fair values of financial instruments by hierarchy level as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016			
	Level 1	Level 2	Level 3	Total
<b>Financial assets:</b>				
Financial assets at FVTPL	₩ -	₩ 104,018	₩ -	₩ 104,018
Available-for-sale financial assets (*1)	754,983	178,766	121,669	1,055,418
Financial assets designated as hedging instruments	-	299,173	-	299,173
	<u>₩ 754,983</u>	<u>₩ 581,957</u>	<u>₩ 121,669</u>	<u>₩ 1,458,609</u>
<b>Financial liabilities:</b>				
Financial liabilities at FVTPL	₩ -	₩ 184,831	₩ -	₩ 184,831
Financial liabilities designated as hedging instruments	-	182,520	-	182,520
	<u>₩ -</u>	<u>₩ 367,351</u>	<u>₩ -</u>	<u>₩ 367,351</u>
	December 31, 2015			
	Level 1	Level 2	Level 3	Total
<b>Financial assets:</b>				
Financial assets at FVTPL	₩ -	₩ 115,714	₩ -	₩ 115,714
Available-for-sale financial assets (*1)	1,120,710	99,449	143,245	1,363,404
Financial assets designated as hedging instruments	-	354,067	-	354,067
	<u>₩ 1,120,710</u>	<u>₩ 569,230</u>	<u>₩ 143,245</u>	<u>₩ 1,833,185</u>
<b>Financial liabilities:</b>				
Financial liabilities at FVTPL	₩ -	₩ 192,201	₩ -	₩ 192,201
Financial liabilities designated as hedging instruments	-	203,577	-	203,577
	<u>₩ -</u>	<u>₩ 395,778</u>	<u>₩ -</u>	<u>₩ 395,778</u>

(\*1) This does not include available-for-sale financial assets, which are measured at cost because their fair values could not be reliably measured.

**7. Trade accounts receivable**

(1) Details of trade accounts receivable as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016		December 31, 2015	
	Current	Non-current	Current	Non-current
<b>Trade accounts receivable:</b>				
Trade accounts receivable	₩ 10,158,904	₩ 24,469	₩ 9,518,973	₩ 45,604
Unbilled receivables	786,678	-	1,044,469	-
<b>Allowance for doubtful accounts:</b>				
Trade accounts receivable	(547,111)	(281)	(385,536)	(353)
	<u>₩ 10,398,471</u>	<u>₩ 24,188</u>	<u>₩ 10,177,906</u>	<u>₩ 45,251</u>



**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**7. Trade accounts receivable (cont'd)**

(2) Details of accumulated cost, accumulated profit, unbilled receivables and overbilled receivables related to construction contracts in progress as at December 31, 2016 and 2015 are as follows (Korean won in millions):

		December 31, 2016				
		Accumulated cost and profit	Progress billings	Unbilled receivables	Overbilled receivables	Provision for construction losses
SK Engineering & Construction Co., Ltd. and its subsidiaries	₩	34,657,316	₩ 35,123,840	₩ 750,205	₩ 1,216,729	₩ 71,101
Others		247,622	220,739	36,473	9,590	-
	₩	34,904,938	₩ 35,344,579	₩ 786,678	₩ 1,226,319	₩ 71,101

  

		December 31, 2015				
		Accumulated cost and profit	Progress billings	Unbilled receivables	Overbilled receivables	Provision for construction losses
SK Engineering & Construction Co., Ltd. and its subsidiaries	₩	31,643,557	₩ 31,618,345	₩ 1,019,057	₩ 993,845	₩ 53,938
Others		202,422	192,101	25,412	15,091	-
	₩	31,845,979	₩ 31,810,446	₩ 1,044,469	₩ 1,008,936	₩ 53,938

(3) Details of construction profit variation by changes of accounting estimates related to construction contracts as at December 31, 2016 are as follows (Korean won in millions):

		December 31, 2016				
		Change in estimated construction revenue	Change in estimated cost	Impact on current period profit (loss)	Impact on future period profit (loss)	Change in unbilled (overbilled) receivables
SK Engineering & Construction Co., Ltd. and its subsidiaries	₩	1,482,464	₩ 1,836,453	₩ (224,287)	₩ (129,702)	₩ (224,287)
Others		9,962	9,820	164	(22)	164
	₩	1,492,426	₩ 1,846,273	₩ (224,123)	₩ (129,724)	₩ (224,123)

Impact on profit of current and future period has been calculated by the estimated construction costs based on the situations which occurred from the inception of construction contracts to current reporting period and the estimated construction revenue as at current reporting period. Estimated construction costs and revenue can be changed in the future period.

(4) Details of the construction contracts where the contract revenue exceeds 5% of the preceding year's revenue under the percentage-of-completion method as at December 31, 2016 are as follows (Korean won in millions):

Subsidiary	Project	Contract date	Completion date	Percentage (%)	Unbilled receivables		Trade accounts receivable (*1)	
					Amount	Impairment	Amount	Allowance for doubtful accounts
SK Engineering & Construction Co., Ltd.	RRE Project	2009.12	2016.12	99.6	₩ 27,072	₩ -	₩ 148,035	₩ -
	Goseong Green Power Project	2014.07	2019.12	6.2	62,669	-	74,745	-

(\*1) It refers to amounts of billed receivables.

(5) The amount includes the carrying amount of trade receivables accounted for secured borrowing (₩356,441 million as at December 31, 2016 and ₩252,734 million as at December 31, 2015) when financial assets were transferred by trade receivables factoring and asset securitization, but are not derecognized, in entirety or in part.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**8. Inventories**

Details of inventories as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016			December 31, 2015		
	Cost	Valuation allowance	Book value	Cost	Valuation allowance	Book value
Merchandise	₩ 894,567	₩ (17,029)	₩ 877,538	₩ 1,451,636	₩ (28,436)	₩ 1,423,200
Finished goods	1,505,234	(39,850)	1,465,384	1,524,102	(44,177)	1,479,925
Semifinished goods and work in progress	620,820	(16,090)	604,730	534,334	(13,652)	520,682
Raw materials and sub-materials	1,334,776	(8,196)	1,326,580	952,933	(42,417)	910,516
Materials in transit	1,512,078	-	1,512,078	1,091,947	-	1,091,947
Supplies	212,776	(948)	211,828	196,780	(366)	196,414
Uncompleted contracts	6,995	-	6,995	7,434	-	7,434
Others	14,625	(903)	13,722	13,209	-	13,209
	<u>₩ 6,101,871</u>	<u>₩ (83,016)</u>	<u>₩ 6,018,855</u>	<u>₩ 5,772,375</u>	<u>₩ (129,048)</u>	<u>₩ 5,643,327</u>

**9. Available-for-sale financial assets**

Details of available-for-sale financial assets as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016	December 31, 2015
Marketable equity instruments	₩ 754,983	₩ 1,120,710
Non-marketable equity instruments	442,111	781,194
Corporate and government bonds	65,010	51,736
Others (*1)	444,436	106,364
	<u>₩ 1,706,540</u>	<u>₩ 2,060,004</u>
Current available-for-sale financial assets	₩ 179,448	₩ 153,340
Non-current available-for-sale financial assets	1,527,092	1,906,664

(\*1) They include beneficiary certificates.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**10. Investments in associates and joint ventures**

(1) Investments in associates and joint ventures

Details of investments in associates and joint ventures as at December 31, 2016 and 2015 are as follows (Korean won in millions):

Company	Domicile	Equity ownership (*1)	December 31, 2016		December 31, 2015
			Acquisition cost	Book value	Book value
Associates:					
SK Hynix Inc.	Korea	20.1%	₩ 5,420,310	₩ 6,088,485	₩ 5,602,620
China Gas Holdings Ltd. (*2, 3, 7)	Hong Kong	16.0%	1,597,222	1,621,030	1,647,330
Daehan Oil Pipeline Corporation	Korea	41.0%	311,372	327,066	313,694
Peru LNG Company, L.L.C (*7)	Peru	20.0%	331,144	314,425	297,965
Korea IT Fund (*4)	Korea	63.3%	242,170	263,850	260,456
Hana Card Co., Ltd. (*2)	Korea	15.0%	253,707	265,798	254,177
Yemen LNG Company Ltd. (*2)	Yemen	6.9%	252,813	12,936	235,216
SK TNS Co., Ltd. (*8)	Korea	-	-	-	165,376
Springvale SK Kores Pty. Ltd.	Australia	50.0%	115,599	107,093	105,916
Eurasia Tunnel (*7)	Turkey	50.0%	95,294	173,273	81,153
Korea Ras Laffan LNG Limited (*2)	Bermuda	8.0%	65,435	77,284	77,416
NanoEnTek, Inc.	Korea	28.5%	68,996	62,657	68,150
SOCAR, Inc. (*6)	Korea	20.0%	58,860	54,680	-
SKC Haas Display Film Co., Ltd.	Korea	49.0%	48,196	63,171	56,278
TSK Water Co., Ltd.	Korea	25.0%	45,811	54,392	48,881
Korea LNG Limited (*2)	Bermuda	16.0%	64,071	45,390	41,556
Xe-Pian Xe-Namnoy Power Company (*7)	Laos	26.0%	54,304	47,423	36,094
SKC Evonik Peroxide Korea Co., Ltd.	Korea	45.0%	27,548	28,473	27,538
Xian Tianlong Science and Technology Co., Ltd.	China	49.0%	24,620	25,880	25,767
Horizon Singapore Terminals Private Limited (*2)	Singapore	15.0%	28,153	27,243	25,170
Shaw SKE&C Middle East Ltd.	UAE	41.0%	22,091	29,471	24,950
Beijing BESK Technology Co., Ltd.	China	40.0%	23,290	18,350	23,004
FSK Holdings Co., Ltd.	Hong Kong	30.0%	11,937	13,463	22,578
SSV Contents Fund (*9)	Korea	-	-	-	17,619
Oilhub Korea Yeosu Co., Ltd. (*2)	Korea	11.0%	16,836	19,167	17,272
Daehan 4 New Stay REIT Co., Ltd. (*6)	Korea	38.7%	16,250	15,207	-
Busan Green Energy Co., Ltd.	Korea	28.5%	14,279	13,565	14,262
Zhejiang Shenxin SK Packaging Co., Ltd.	China	50.0%	13,654	13,730	14,049
UNISK (Beijing) Information Technology Co., Ltd.	China	49.0%	11,002	13,001	11,675
SM Mobile Communications Co. Ltd. (*6)	Korea	46.2%	12,139	11,993	-
SBS Golf Co., Ltd.	Korea	21.4%	3,300	9,816	9,862
Inter Vest New Growth Fund	Korea	30.0%	7,100	2,115	5,302
Troika Resources Investment Fund (*2)	Korea	10.1%	18,430	2,418	4,271
Others				137,557	142,341
				<u>9,960,402</u>	<u>9,677,938</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**10. Investments in associates and joint ventures (cont'd)**

Company	Domicile	Equity ownership (*1)	December 31, 2016		December 31, 2015	
			Acquisition cost	Book value	Book value	Book value
Joint ventures (*5):						
Sinopec-SK (Wuhan) Petrochemical Co., Ltd.	China	35.0%	₩ 488,809	₩ 565,226	₩ 508,826	
Mitsui Chemicals & SKC Polyurethanes Co., Ltd.	Korea	50.0%	349,942	378,870	354,340	
Hana land chip PEF 33 (*4)	Korea	65.2%	196,001	196,897	197,123	
Boryeong LNG Terminal Co., Ltd. (*7)	Korea	50.0%	108,323	97,703	92,697	
SABIC SK Nexlene Company Pte. Ltd.	Singapore	50.0%	112,670	76,946	86,242	
SKC-KOLON PI Co., Ltd.	Korea	27.0%	83,753	90,079	84,505	
S&Y Shipping S.A.	Panama	50.0%	42,195	44,660	42,520	
Finnq Co., Ltd. (*6)	Korea	49.0%	24,580	24,174	-	
Ocean Maritime HongKong Ltd.	Hong Kong	50.0%	35,788	25,456	24,960	
PT XL Planet Digital (*7)	Indonesia	50.0%	57,506	27,512	23,108	
Dogus Planet, Inc. (*7)	Turkey	50.0%	39,748	20,081	15,118	
12CM Global Pte. Ltd. (*4, 6)	Singapore	62.7%	10,896	10,896	-	
Shanghai-GaoQiao SK Solvent Co., Ltd.	China	50.0%	11,724	10,782	11,709	
Tengzhou ShengYuanHongDa Chemical Co., Ltd.	China	50.0%	5,795	-	3,806	
Celcom Planet (*4, 7)	Malaysia	51.0%	31,956	2,851	3,405	
Others				27,364	31,478	
				<u>1,599,497</u>	<u>1,479,837</u>	
				<u>₩ 11,559,899</u>	<u>₩ 11,157,775</u>	

(\*1) Equity ownership includes indirect investments held by consolidated subsidiaries.

(\*2) The Group retains significant influence on the associate despite having less than 20% equity interests.

(\*3) As we were unable to obtain the financial statements for December, we used the financial statements for the first half of the year and examined the effect of significant transactions and events during the three months.

(\*4) These companies were not included as consolidated subsidiaries as the Group does not have the power over more than half of the voting rights by agreements.

(\*5) All joint arrangements that the Group has joint control over are structured by a consolidated entity. The parties that have joint control with respect to the joint agreements hold the rights to the net assets of the agreements and accordingly, they are classified as joint ventures and accounted for using the equity method of accounting.

(\*6) During the current reporting period, the Group newly acquired the shares.

(\*7) During the current reporting period, the Group contributed the shares additionally.

(\*8) These companies have been excluded from investments in associates as they have been classified as consolidated subsidiaries (See Note 38).

(\*9) During the current reporting period, it has been sold.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**10. Investments in associates and joint ventures (cont'd)**

(2) Changes in carrying amount of investments in associates and joint ventures

Changes in investments in associates and joint ventures accounted for using the equity method for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the year ended December 31, 2016							Ending balance
	Beginning balance	Acquisitions	Disposals	Equity profit or losses on investments (*1)	Other capital movements	Dividends received	Others (*2)	
Associates:								
SK Hynix Inc.	₩ 5,602,620	₩ -	₩ -	₩ 550,322	₩ 8,593	₩ (73,050)	₩ -	₩ 6,088,485
China Gas Holdings Ltd.	1,647,330	5,465	-	62,777	(72,584)	(21,958)	-	1,621,030
Daehan Oil Pipeline Corporation	313,694	-	-	16,857	204	(3,689)	-	327,066
Peru LNG Company, L.L.C	297,965	13,675	-	(7,058)	9,843	-	-	314,425
Korea IT Fund	260,456	-	-	14,863	(5,387)	(6,082)	-	263,850
Hana Card Co., Ltd.	254,177	-	-	11,658	(37)	-	-	265,798
Yemen LNG Company Ltd.	235,216	-	-	(20,333)	6,313	-	(208,260)	12,936
SK TNS Co., Ltd.	165,376	-	-	2,813	-	-	(168,189)	-
Springvale SK Kores Pty. Ltd.	105,916	-	-	(2,420)	1,236	-	2,361	107,093
Eurasia Tunnel	81,153	19,814	-	27,101	(6,196)	-	51,401	173,273
Korea Ras Laffan LNG Limited	77,416	-	-	4,398	(1,734)	(2,796)	-	77,284
NanoEnTek, inc	68,150	-	-	(3,950)	(1,543)	-	-	62,657
SOCAR, INC.	-	58,860	-	(4,180)	-	-	-	54,680
SKC Haas Display film Pty. Ltd.	56,278	-	-	6,183	850	-	(140)	63,171
TSK Water Co., Ltd.	48,881	-	-	5,402	(14)	-	123	54,392
Korea LNG Limited	41,556	-	-	5,117	3,807	(5,090)	-	45,390
Xe-Pian Xe-Namnoy Power Company	36,094	12,594	-	(3,350)	2,085	-	-	47,423
SKC Evonik Peroxide Korea	27,538	-	-	1,222	-	(287)	-	28,473
Xian Tianlong Science and Technology Co., Ltd.	25,767	-	-	113	-	-	-	25,880
Horizon Singapore Terminals Private Limited	25,170	-	-	6,286	(545)	(4,507)	839	27,243
Shaw SKE&C Middle East Ltd.	24,950	-	-	3,595	926	-	-	29,471
Beijing BESK Technology Co., Ltd.	23,004	-	-	(3,750)	(904)	-	-	18,350
FSK Holdings Co., Ltd.	22,578	-	(9,573)	101	357	-	-	13,463
SSV Contents Fund	17,619	-	(17,675)	56	-	-	-	-
Oilhub Korea Yeosu Co., Ltd.	17,272	-	-	1,924	(29)	-	-	19,167
Daehan 4 New Stay REIT Co., Ltd.	-	16,250	-	(1,043)	-	-	-	15,207
Busan Green Energy Co., Ltd.	14,262	-	-	(697)	-	-	-	13,565
Zhejiang Shenxin SK Packaging Co., Ltd.	14,049	-	-	451	(281)	-	(489)	13,730
UNISK (Beijing) Information Technology Co., Ltd.	11,675	-	-	915	411	-	-	13,001
SM Mobile Communications Co., Ltd.	-	12,139	-	(146)	-	-	-	11,993
SBS Golf Co., Ltd.	9,862	-	-	(46)	-	-	-	9,816
Inter Vest New Growth Fund	5,302	-	(3,840)	653	-	-	-	2,115
Troika Resources Investment Fund	4,271	-	-	(1,848)	(5)	-	-	2,418
Others	142,341	22,032	(26,513)	(10,938)	3,361	(4,681)	11,955	137,557
	<u>9,677,938</u>	<u>160,829</u>	<u>(57,601)</u>	<u>663,048</u>	<u>(51,273)</u>	<u>(122,140)</u>	<u>(310,399)</u>	<u>9,960,402</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**10. Investments in associates and joint ventures (cont'd)**

	For the year ended December 31, 2016							
	Beginning balance	Acquisitions	Disposals	Equity profit or losses on investments (*1)	Other capital movements	Dividends received	Others (*2)	Ending balance
Joint ventures:								
Sinopec-SK (Wuhan) Petrochemical Co., Ltd.	₩ 508,826	₩ -	₩ -	₩ 90,870	₩ (34,470)	₩ -	₩ -	₩ 565,226
Mitsui Chemicals & SKC Polyurethanes Co., Ltd.	354,340	-	-	13,217	11,248	-	65	378,870
Hana land chip PEF 33	197,123	-	-	15,990	-	(16,216)	-	196,897
Boryeong LNG Terminal Co., Ltd.	92,697	10,000	-	(4,944)	(50)	-	-	97,703
SABIC SK Nexlene Company Pte. Ltd.	86,242	-	-	(4,064)	(5,232)	-	-	76,946
SKC-KOLON PI Co., Ltd.	84,505	-	-	6,398	-	(873)	49	90,079
S&Y Shipping S.A.	42,520	-	-	783	-	-	1,357	44,660
Finnq Co., Ltd.	-	24,580	-	(406)	-	-	-	24,174
Ocean Maritime HongKong Ltd.	24,960	-	-	(270)	-	-	766	25,456
PT XL Planet Digital	23,108	29,123	-	(24,719)	-	-	-	27,512
Dogus Planet, Inc.	15,118	18,722	-	(11,008)	(2,751)	-	-	20,081
12CM Global Pte. Ltd.	-	10,896	-	-	-	-	-	10,896
Shanghai-GaoQiao SK Solvent Co., Ltd.	11,709	-	-	(457)	(470)	-	-	10,782
Tengzhou ShengYuanHongDa Chemical Co., Ltd.	3,806	-	-	(2,029)	-	-	(1,777)	-
Celcom Planet	3,405	20,734	-	(21,288)	-	-	-	2,851
Others	31,478	-	(3,488)	(456)	(2,133)	-	1,963	27,364
	<u>1,479,837</u>	<u>114,055</u>	<u>(3,488)</u>	<u>57,617</u>	<u>(33,858)</u>	<u>(17,089)</u>	<u>2,423</u>	<u>1,599,497</u>
	<u>₩11,157,775</u>	<u>₩ 274,884</u>	<u>₩ (61,089)</u>	<u>₩ 720,665</u>	<u>₩ (85,131)</u>	<u>₩ (139,229)</u>	<u>₩ (307,976)</u>	<u>₩11,559,899</u>

(\*1) The Group recognized additional loans receivable by ₩1,327 million of unrecognized losses, which were incurred as losses on investments in associates exceeded their carrying amounts.

(\*2) Others include the impairment of investments in associates and joint ventures, effects of changes in scope of consolidation, net foreign currency differences, and others.

	For the year ended December 31, 2015								
	Beginning balance	Business combination	Acquisitions	Disposals	Equity profit or losses on investments (*1)	Other capital movements	Dividends received	Others (*2)	Ending balance
Associates:									
SK Hynix Inc.	₩ -	₩ 5,420,310	₩ -	₩ -	₩ 242,190	₩ (59,880)	₩ -	₩ -	₩ 5,602,620
China Gas Holdings Ltd.	-	1,591,757	-	-	29,624	42,531	(16,582)	-	1,647,330
Daehan Oil Pipeline Corporation	-	311,372	-	-	2,506	(184)	-	-	313,694
Peru LNG Company, L.L.C	-	317,469	-	-	(11,044)	(8,460)	-	-	297,965
Korea IT Fund	-	242,170	-	-	6,930	11,356	-	-	260,456
Hana Card Co., Ltd.	-	253,707	-	-	794	(324)	-	-	254,177
Yemen LNG Company Ltd.	-	252,813	-	-	(17,871)	274	-	-	235,216
SK TNS Co., Ltd.	-	-	160,000	-	5,376	-	-	-	165,376
Springvale SK Kores Pty. Ltd.	-	115,599	-	-	(1,732)	(7,951)	-	-	105,916
Eurasia Tunnel	-	69,095	6,385	-	2,397	3,276	-	-	81,153
Korea Ras Laffan LNG Limited	-	65,435	-	-	1,362	11,742	(1,123)	-	77,416
NanoEnTek, Inc.	-	58,996	10,000	-	(802)	(44)	-	-	68,150
SKC Haas Display Film Co., Ltd.	-	48,196	-	-	7,292	1,514	-	(724)	56,278
TSK Water Co., Ltd.	-	45,811	-	-	3,069	1	-	-	48,881
Korea LNG Limited	-	64,071	-	-	3,623	(23,073)	(3,065)	-	41,556
Xe-Pian Xe-Namnoy Power Company	-	23,127	14,707	-	(2,808)	1,068	-	-	36,094
SKC Evonik Peroxide Korea Co., Ltd.	-	27,548	-	-	(10)	-	-	-	27,538
Xian Tianlong Science and Technology Co., Ltd.	-	24,620	-	-	1,147	-	-	-	25,767
Horizon Singapore Terminals Private Limited	-	28,153	-	-	3,157	(1,129)	(5,566)	555	25,170
Shaw SKE&C Middle East Ltd.	-	22,091	-	-	4,026	766	(1,933)	-	24,950
Beijing BESK Technology Co., Ltd.	-	23,290	-	-	(229)	(57)	-	-	23,004
FSK Holdings Co., Ltd.	-	-	20,726	-	(102)	1,954	-	-	22,578
SSV Contents Fund	-	18,374	-	-	(755)	-	-	-	17,619
Oilhub Korea Yeosu Co., Ltd.	-	16,836	-	-	429	7	-	-	17,272
Busan Green Energy Co., Ltd.	-	14,279	-	-	(17)	-	-	-	14,262
Zhejiang Shenxin SK Packaging Co., Ltd.	-	13,654	-	-	440	(22)	-	(23)	14,049
UNISK (Beijing) Information Technology Co., Ltd.	-	11,002	-	-	1,079	(176)	(230)	-	11,675
SBS Golf Co., Ltd.	9,614	-	-	-	261	(13)	-	-	9,862
Inter Vest New Growth Fund	-	9,008	-	(7,980)	5,153	(879)	-	-	5,302
Troika Resources Investment Fund	-	18,430	-	-	352	1	-	(14,512)	4,271
SK Holdings Co., Ltd.	3,293,083	-	-	(3,660,228)	382,113	22,393	(37,361)	-	-
Fitech Focus Limited Partnership II	4,978	-	-	-	(307)	-	-	(4,671)	-
Others	6,910	200,936	17,863	(17,871)	(9,193)	(2,584)	1	(53,721)	142,341
	<u>3,314,585</u>	<u>9,308,149</u>	<u>229,681</u>	<u>(3,686,079)</u>	<u>658,450</u>	<u>(7,893)</u>	<u>(65,859)</u>	<u>(73,096)</u>	<u>9,677,938</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**10. Investments in associates and joint ventures (cont'd)**

	For the year ended December 31, 2015									
	Beginning balance	Business combination	Acquisitions	Disposals	Equity profit or losses on investments (*1)	Other capital movements	Dividends received	Others (*2)	Ending balance	
Joint ventures:										
Sinopec-SK (Wuhan) Petrochemical Co., Ltd	₩	- ₩	488,809 ₩	- ₩	- ₩	39,828 ₩	(19,811) ₩	- ₩	- ₩	508,826
Mitsui Chemicals & SKC Polyurethanes Co., Ltd.		-	349,942	-	-	6,470	(1,925)	-	(147)	354,340
Hana land chip PEF 33		-	196,001	-	-	4,845	-	(3,723)	-	197,123
Boryeong LNG Terminal Co., Ltd.		-	98,323	-	-	(5,626)	-	-	-	92,697
SABIC SK Nexlene Company Pte. Ltd.		-	112,670	-	-	(19,255)	(7,173)	-	-	86,242
SKC-KOLON PI Co., Ltd.		-	83,753	-	-	752	-	-	-	84,505
S&Y Shipping S.A.		-	42,195	-	-	174	-	-	151	42,520
Ocean Maritime HongKong Ltd.		-	35,788	-	-	593	-	(11,421)	-	24,960
PT XL Planet Digital		-	24,137	4,246	-	(5,275)	-	-	-	23,108
Dogus Planet, Inc.		-	15,234	5,792	-	(8,841)	2,933	-	-	15,118
Shanghai-GaoQiao SK Solvent Co., Ltd.		-	11,724	-	-	42	(57)	-	-	11,709
Tengzhou ShengYuanHongDa Chemical Co., Ltd.		-	5,795	-	-	(1,992)	-	-	3	3,806
Celcom Planet		-	11,222	-	-	(7,817)	-	-	-	3,405
Others		-	36,183	-	(571)	1,609	(411)	-	(5,332)	31,478
		-	1,511,776	10,038	(571)	5,507	(26,444)	(3,723)	(16,746)	1,479,837
	₩	3,314,585	₩10,819,925	₩ 239,719	₩ (3,686,650)	₩ 663,957	₩ (34,337)	₩ (69,582)	₩ (89,842)	₩11,157,775

(\*1) The Group recognized additional loans receivable by ₩948 million of unrecognized losses, which were incurred as losses on investments in associates exceeded their carrying amounts.

(\*2) Others include the impairment of investments in associates and joint ventures, effects of changes in scope of consolidation, net foreign currency differences, and others.

(3) Details of unrecognized changes in equity method caused by discontinuing the application of equity method as at December 31, 2016 are as follows (Korean won in millions):

	Beginning balance	Changes	Ending balance
SK Telesys Corporation	₩ 3,960	₩ -	₩ 3,960
U - land Co., Ltd.	1,762	(31)	1,731
Wave City Development Co., Ltd.	4,538	(1,248)	3,290
SK Wyverns Baseball Club Co., Ltd.	1,193	2,874	4,067
Daehan Kanggun BcN Co. Ltd.	-	1,408	1,408
Cyworld China Co., Ltd.	1,681	-	1,681
Cyworld Vietnam (Holdings) Limited	1,904	-	1,904
Pentaport Development Co., Ltd.	41,479	4,409	45,888
Morning Bridge Co., Ltd.	7,733	(7,733)	-
SKE&C JURONG Investment Singapore Pte. Ltd.	7,213	(7,213)	-

(4) Details of the fair value of marketable investments in associates as at December 31, 2016, are as follows (Korean won in millions):

	Fair value
SK Hynix Inc.	₩ 6,530,670
China Gas Holdings Ltd.	1,280,144
SKC-KOLON PI Co., Ltd.	111,142
NanoEnTek, Inc.	34,941

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**10. Investments in associates and joint ventures (cont'd)**

(5) Details of reconciliation from net assets of investments of associates and jointly controlled entities to book value of investments in associates and jointly controlled entities as at December 31, 2016 are as follows (Korean won in millions):

	December 31, 2016					
	Net assets	Equity ownership	Net assets attributable to the ownership interests	Cost-book value differentials	Internal transactions	Book value
<b>Associates:</b>						
SK Hynix Inc. (*1)	₩ 24,016,955	20.1%	₩ 4,970,266	₩ 1,136,688	₩ (18,469)	₩ 6,088,485
China Gas Holdings Ltd. (*1)	2,600,795	16.0%	416,569	1,204,461	-	1,621,030
Daehan Oil Pipeline Corporation	741,922	41.0%	304,188	22,878	-	327,066
Peru LNG Company, L.L.C	1,572,125	20.0%	314,425	-	-	314,425
Korea IT Fund	416,606	63.3%	263,850	-	-	263,850
Hana Card Co., Ltd.	1,411,839	15.0%	211,776	54,022	-	265,798
Yemen LNG Company Ltd.	3,205,740	6.9%	221,196	-	(208,260)	12,936
Springvale SK Kores Pty. Ltd.	214,187	50.0%	107,093	-	-	107,093
Eurasia Tunnel	340,583	50.0%	170,292	17,543	(14,562)	173,273
Korea Ras Laffan LNG Limited	966,051	8.0%	77,284	-	-	77,284
NanoEnTek, Inc.	30,382	28.5%	8,659	53,998	-	62,657
SOCAR, Inc.	53,487	20.0%	10,697	43,983	-	54,680
SKC Haas Display film Pty. Ltd.	129,592	49.0%	63,500	-	(329)	63,171
TSK Water Co., Ltd. (*1)	148,351	25.0%	37,088	17,304	-	54,392
Korea LNG Limited	283,685	16.0%	45,390	-	-	45,390
Xe-Pian Xe-Namnoy Power Company	230,069	26.0%	59,817	-	(12,394)	47,423
SKC Evonik Peroxide Korea Co., Ltd.	34,025	45.0%	15,312	13,161	-	28,473
<b>Horizon Singapore Terminals Private Limited</b>						
Shaw SKE&C Middle East Ltd.	174,824	15.0%	27,243	-	-	27,243
Beijing BESK Technology Co., Ltd.	71,880	41.0%	29,471	-	-	29,471
FSK Holdings Co., Ltd.	43,342	40.0%	18,350	-	-	18,350
Oilhub Korea Yeosu Co., Ltd.	44,876	30.0%	13,463	-	-	13,463
Daehan 4 New Stay REIT Co., Ltd.	151,765	11.0%	16,694	2,473	-	19,167
Busan Green Energy Co., Ltd.	39,464	38.7%	15,207	-	-	15,207
Zhejiang Shenxin SK Packaging Co., Ltd.	47,596	28.5%	13,565	-	-	13,565
UNISK (Beijing) Information Technology Co., Ltd.	25,987	50.0%	13,730	-	-	13,730
SM Mobile Communications Co., Ltd.	26,533	49.0%	13,001	-	-	13,001
SBS Golf Co., Ltd.	18,833	46.2%	8,692	3,301	-	11,993
Inter Vest New Growth Fund	45,336	21.4%	9,816	-	-	9,816
Troika Resources Investment Fund	7,051	30.0%	2,115	-	-	2,115
	24,006	10.1%	2,418	-	-	2,418
<b>Joint ventures:</b>						
Sinopec-SK (Wuhan) Petrochemical Co., Ltd.	1,498,461	35.0%	524,461	40,765	-	565,226
Mitsui Chemicals & SKC Polyurethanes Co., Ltd. (*1)	761,811	50.0%	379,959	-	(1,089)	378,870
Hana land chip PEF 33	302,212	65.2%	196,897	-	-	196,897
Boryeong LNG Terminal Co., Ltd.	152,540	50.0%	76,270	28,736	(7,303)	97,703
SABIC SK Nexlene Company Pte. Ltd.	256,088	50.0%	128,044	-	(51,098)	76,946
SKC-KOLON PI Co., Ltd.	231,100	27.0%	62,467	28,215	(603)	90,079
S&Y Shipping S.A.	89,321	50.0%	44,660	-	-	44,660
Finnq Co., Ltd.	48,450	49.0%	23,741	433	-	24,174
Ocean Maritime HongKong Ltd.	50,913	50.0%	25,456	-	-	25,456
PT XL Planet Digital	55,024	50.0%	27,512	-	-	27,512
Dogus Planet, Inc.	40,162	50.0%	20,081	-	-	20,081
12CM Global Pte. Ltd.	12,063	62.7%	7,559	3,337	-	10,896
Shanghai-GaoQiao SK Solvent Co., Ltd.	20,407	50.0%	10,782	-	-	10,782
Celcom Planet	5,590	51.0%	2,851	-	-	2,851

(\*1) The associate's net assets represent the net assets of the controlling interests of the Group in the associate as the associate prepares consolidated financial statements.



**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**10. Investments in associates and joint ventures (cont'd)**

(6) Condensed financial informations of significant investments in associates and jointly controlled entities as at December 31, 2016 are as follows (Korean won in millions).

	For the year ended December 31, 2016						
	Current assets	Non-current assets	Current liabilities	Non-current liabilities	Sales	Net income (loss)	Total comprehensive income (loss)
<b>Associates:</b>							
SK Hynix Inc.	₩ 9,838,982	₩ 22,377,044	₩ 4,160,849	₩ 4,031,647	₩ 17,197,975	₩ 2,960,483	₩ 2,989,327
China Gas Holdings Ltd.	1,872,267	5,940,449	2,971,771	1,785,526	4,212,700	470,428	319,727
Daehan Oil Pipeline Corporation	111,381	894,536	38,977	225,018	163,572	40,937	41,434
Peru LNG Company, L.L.C	404,483	3,219,346	232,799	1,818,905	513,107	(41,132)	(41,132)
Korea IT Fund	166,349	250,257	-	-	28,839	23,469	14,963
Hana Card Co., Ltd.	6,868,387	239,758	1,219,327	4,476,979	1,413,077	75,595	75,441
Yemen LNG Company Ltd.	185,224	5,269,418	237,627	2,011,275	-	(300,273)	(300,273)
Springvale SK Kores Pty. Ltd.	24,740	395,198	28,476	177,275	110,767	(2,328)	(2,328)
Eurasia Tunnel	60,934	1,362,361	64,716	1,017,996	274,759	54,996	54,996
Korea Ras Laffan LNG Limited	37,364	965,049	14,618	21,744	58,729	54,970	(83,701)
NanoEnTek, Inc.	24,556	25,911	6,141	13,944	19,929	(14,644)	(14,643)
SOCAR, Inc.	54,041	75,219	41,120	34,653	78,601	(21,646)	(21,646)
SKC Haas Display film Pty. Ltd.	114,153	122,438	95,787	11,212	277,775	12,807	14,542
TSK Water Co., Ltd.	100,799	322,337	90,375	183,654	378,081	20,273	20,273
Korea LNG Limited	20,442	282,947	19,704	-	33,054	31,981	31,981
Xe-Pian Xe-Namnoy Power Company	30,565	742,109	37,275	505,330	-	(7,267)	(7,567)
SKC Evonik Peroxide Korea Co., Ltd.	23,117	16,399	5,149	342	47,941	2,713	2,713
Horizon Singapore Terminals Private Limited	31,588	241,700	41,877	56,587	86,028	4,798	4,798
Shaw SKE&C Middle East Ltd.	10	71,903	33	-	-	8,768	8,768
Beijing BESK Technology Co., Ltd.	110,260	12,935	79,853	-	105,431	(9,866)	(9,866)
FSK Holdings Co., Ltd.	27	44,852	3	-	-	(2)	(2)
Oilhub Korea Yeosu Co., Ltd.	76,931	477,963	308,445	94,684	76,668	40,695	40,426
Daehan 4 New Stay REIT Co., Ltd.	4,660	38,322	1,528	1,990	-	(2,467)	(2,467)
Busan Green Energy Co., Ltd.	5,538	142,226	13,586	86,582	-	(2,444)	(2,444)
Zhejiang Shenxin SK Packaging Co., Ltd.	20,223	20,205	14,441	-	45,553	1,111	1,111
UNISK (Beijing) Information Technology Co., Ltd.	13,051	24,545	11,054	9	36,218	3,271	3,271
SM Mobile Communications Co. Ltd.	9,756	9,757	420	260	580	(1,906)	(1,906)
SBS Golf Co., Ltd.	30,928	18,951	4,471	72	50,408	(757)	(794)
Inter Vest New Growth Fund	7,051	-	-	-	2,497	2,178	2,178
Troika Resources Investment Fund	29,942	-	5,936	-	(6,686)	(16,938)	(16,938)
<b>Joint ventures:</b>							
Sinopec-SK (Wuhan) Petrochemical Co., Ltd.	257,723	2,544,423	1,303,631	54	2,040,952	271,028	271,028
Mitsui Chemicals & SKC Polyurethanes Co., Ltd.	520,196	737,094	376,260	81,020	1,124,878	34,104	58,812
Hana land chip PEF 33	8,656	576,307	1,024	281,727	34,486	24,554	24,554
Boryeong LNG Terminal Co., Ltd.	214,339	1,080,800	29,317	1,113,282	-	(4,681)	(4,681)
SABIC SK Nexlene Company Pte. Ltd.	138,774	627,211	147,038	362,859	256,892	(12,206)	(29,542)
SKC-KOLON PI Co., Ltd.	94,990	212,551	30,809	45,632	153,057	23,467	23,738
S&Y Shipping S.A.	13,233	124,415	5,671	42,656	14,498	1,567	1,567
Finnq Co., Ltd.	48,699	673	138	784	-	(829)	(829)
Ocean Maritime HongKong Ltd.	2,080	77,183	523	27,827	11,331	(540)	(562)
PT XL Planet Digital	20,077	50,765	14,513	1,305	9,492	(49,438)	(49,438)
Dogus Planet, Inc.	46,433	20,218	26,417	72	53,864	(22,017)	(22,017)
12CM Global Pte. Ltd.	12,061	727	725	-	-	(22)	(22)
Shanghai-GaoQiao SK Solvent Co., Ltd.	13,089	7,626	308	-	38,411	(1,102)	(1,102)
Celcom Planet	13,445	7,341	15,196	-	6,511	(41,742)	(41,742)

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**11. Property, plant and equipment**

(1) Details of property, plant and equipment as at December 31, 2016, and 2015 are as follows (Korean won in millions):

	December 31, 2016	December 31, 2015
Acquisition cost	₩ 44,164,521	₩ 40,734,261
Accumulated depreciation and accumulated impairment loss	(3,132,016)	(1,288,975)
	<u>₩ 41,032,505</u>	<u>₩ 39,445,286</u>

(2) Changes in property, plant and equipment for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the year ended December 31, 2016						Ending balance
	Beginning balance	Business combination	Acquisitions	Disposals	Depreciation	Others (*1)	
Land	₩ 9,900,793	₩ 160,723	₩ 4,348	₩ (58,163)	₩ -	₩ (12,924)	₩ 9,994,777
Buildings	3,292,931	103,892	10,584	(31,646)	(144,609)	134,834	3,365,986
Structures	1,227,202	40,520	70,466	(4,170)	(99,561)	78,627	1,313,084
Ships and vessels	2,805,736	-	213,055	(4,341)	(145,941)	(197,232)	2,671,277
Machinery and equipment	16,189,361	273,478	671,669	(70,552)	(2,960,189)	1,577,196	15,680,963
Vehicles	485,429	1,434	511,999	(6,447)	(117,184)	(50,219)	825,012
Others	2,770,338	157,217	925,371	(26,576)	(573,365)	(223,798)	3,029,187
Construction-in-progress	2,773,496	27,512	3,410,464	(43,713)	-	(2,015,540)	4,152,219
	<u>₩ 39,445,286</u>	<u>₩ 764,776</u>	<u>₩ 5,817,956</u>	<u>₩ (245,608)</u>	<u>₩ (4,040,849)</u>	<u>₩ (709,056)</u>	<u>₩ 41,032,505</u>

	For the year ended December 31, 2015						Ending balance
	Beginning balance	Business combination	Acquisitions	Disposals	Depreciation	Others (*1)	
Land	₩ 147,205	₩ 9,872,406	₩ 8,343	₩ (178,879)	₩ -	₩ 51,718	₩ 9,900,793
Buildings	336,133	2,961,414	6,844	(9,069)	(67,407)	65,016	3,292,931
Structures	-	1,199,062	11,370	(1,539)	(57,934)	76,243	1,227,202
Ships and vessels	-	2,763,923	247	(8,803)	(51,110)	101,479	2,805,736
Machinery and equipment	62	15,883,223	400,080	(46,687)	(1,233,602)	1,186,285	16,189,361
Vehicles	773	411,459	130,045	(2,710)	(36,749)	(17,389)	485,429
Others	90,010	2,696,784	188,796	(8,085)	(257,793)	60,626	2,770,338
Construction-in-progress	-	2,712,280	1,823,222	(2,368)	-	(1,759,638)	2,773,496
	<u>₩ 574,183</u>	<u>₩ 38,500,551</u>	<u>₩ 2,568,947</u>	<u>₩ (258,140)</u>	<u>₩ (1,704,595)</u>	<u>₩ (235,660)</u>	<u>₩ 39,445,286</u>

(\*1) This includes impairment losses, transfer of construction-in-progress to depreciable assets and investment property, net translation differences, and others.

(3) Borrowing costs capitalized

Borrowing costs capitalized and capitalization rates for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016	December 31, 2015
Property, plant and equipment and intangible assets	₩ 61,652	₩ 82,051
Inventories	-	39
	<u>₩ 61,652</u>	<u>₩ 82,090</u>
Capitalization rate	2.1% ~ 4.8%	2.6% ~ 7.4%

**12. Investment property**

(1) Details of investment property as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016	December 31, 2015
Acquisition cost	₩ 740,264	₩ 811,593
Accumulated depreciation and accumulated impairment loss	(12,481)	(13,785)
	<u>₩ 727,783</u>	<u>₩ 797,808</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**12. Investment property (cont'd)**

(2) Changes in investment property for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the year ended December 31, 2016						Ending balance
	Beginning balance	Acquisition	Disposal	Depreciation	Others (*1)		
Land	₩ 384,932	₩ -	₩ -	₩ -	₩ (207)	₩ 384,725	
Buildings	411,120	2,967	(56,570)	(11,091)	(4,977)	341,449	
Structures	1,756	-	-	(147)	-	1,609	
	<u>₩ 797,808</u>	<u>₩ 2,967</u>	<u>₩ (56,570)</u>	<u>₩ (11,238)</u>	<u>₩ (5,184)</u>	<u>₩ 727,783</u>	

	For the year ended December 31, 2015						Ending balance
	Beginning balance	Business combination	Acquisition	Depreciation	Others (*1)		
Land	₩ -	₩ 393,805	₩ 211	₩ -	₩ (9,084)	₩ 384,932	
Buildings	-	426,419	4,283	(8,571)	(11,011)	411,120	
Structures	-	1,817	-	(61)	-	1,756	
	<u>₩ -</u>	<u>₩ 822,041</u>	<u>₩ 4,494</u>	<u>₩ (8,632)</u>	<u>₩ (20,095)</u>	<u>₩ 797,808</u>	

(\*1) This includes net translation differences, transferred amounts to property, plant and equipment and others.

(3) Details of profit or loss recognized for the year ended December 31, 2016 with regards to investment property are as follows (Korean won in millions):

	December 31, 2016	
Rental revenue	₩	18,272
Depreciation		(11,238)
	<u>₩</u>	<u>7,034</u>

The Group does not distinguish between rental revenue and related operating expenses.

(4) As at December 31, 2016, the fair value of investment property is ₩902,778 million.

**13. Goodwill**

(1) Changes in goodwill for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Beginning balance	₩ 27,078	₩ 22,468
Business combination (*1)	533,785	4,785
Others (*2)	14,370	(175)
Ending balance	<u>₩ 575,233</u>	<u>₩ 27,078</u>

(\*1) The amount of business combination for the year ended December 31, 2016 consists of goodwill resulting from acquiring shares of SK Materials Co., Ltd., SK Magic Co., Ltd. and others (see Note 38 Business Combination).

(\*2) Others include net translation differences, transferred amounts to an asset held for sale and others.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**13. Goodwill (cont'd)**

(2) Impairment testing of goodwill

1) Goodwill of each operating segment for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
SK Holdings Co., Ltd.	₩ 141,304	₩ 4,639
Group of SK Networks Co., Ltd.	253,004	4,785
Group of SK Engineering & Construction Co., Ltd.	144,116	-
Others	36,809	17,654
	<u>₩ 575,233</u>	<u>₩ 27,078</u>

As a result of goodwill impairment test, there is no operating segment of which the carrying amount exceeds the recoverable amount, so there is no impairment loss recognized during the current reporting period.

2) Significant assumptions to estimate the recoverable amounts reflected the management's expectation of future trend considered with external and internal (historical) information.

Significant assumptions used in impairment testing of goodwill for the year ended 2016 are as follows:

	Recoverable amount	Growth rate (*2)	Discount rate (*3)
SK Holdings Co., Ltd.	Net fair value (*1)	-	-
Group of SK Networks Co., Ltd.	Value in use	1.0%	8.8%
Group of SK Engineering & Construction Co., Ltd.	Value in use	0.0%	9.9%

(\*1) Net fair value is estimated by subtracting disposal cost from expected gain on disposal of the asset.

(\*2) Future cash flows for additional periods after the estimated period are estimated using a fixed growth rate.

(\*3) The discount rate used to determine the recoverable amount of each operating segment is based on the weighted-average cost of capital.

**14. Intangible assets**

(1) Details of intangible assets for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the year ended December 31, 2016						
	Beginning balance	Business combination	Acquisitions	Disposals	Amortization	Others (*2)	Ending balance
Development costs	₩ 79,158	₩ 40	₩ 28,211	₩ (151)	₩ (26,673)	₩ (2,718)	₩ 77,867
Facility usage rights	61,386	-	2,254	(50)	(8,929)	(226)	54,435
Industrial property rights	120,701	-	6,394	(185)	(7,150)	6,764	126,524
Frequency usage rights	1,103,517	-	1,810,076	-	(332,765)	-	2,580,828
Customer-related assets	1,263,503	287,813	499	-	(115,099)	3,029	1,439,745
Membership (*1)	241,874	1,728	29,975	(23,980)	-	(27,084)	222,513
Development costs for petroleum resource	1,862,146	-	180,366	-	(108,511)	(158,866)	1,775,135
Brand contract-related assets (*1)	1,975,000	210,119	-	-	-	-	2,185,119
Developed technology	1,045,951	111,717	-	-	(118,455)	-	1,039,213
Others (*3)	1,969,115	8,366	192,076	(24,907)	(443,536)	(5,336)	1,695,778
	<u>₩ 9,722,351</u>	<u>₩ 619,783</u>	<u>₩ 2,249,851</u>	<u>₩ (49,273)</u>	<u>₩ (1,161,118)</u>	<u>₩ (184,437)</u>	<u>₩ 11,197,157</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**14. Intangible assets (cont'd)**

	For the year ended December 31, 2015						Ending balance
	Beginning balance	Business combination	Acquisitions	Disposals	Amortization	Others (*2)	
Development costs	₩ 45,839	₩ 44,960	₩ 21,297	₩ (7,050)	₩ (18,672)	₩ (7,216)	₩ 79,158
Facility usage rights	-	62,788	2,044	(8)	(3,854)	416	61,386
Industrial property rights	3,270	117,986	2,427	(346)	(3,030)	394	120,701
Frequency usage rights	-	1,220,403	-	-	(116,886)	-	1,103,517
Customer-related assets	251	1,308,749	-	-	(42,766)	(2,731)	1,263,503
Membership (*1)	17,173	231,650	7,121	(7,364)	-	(6,706)	241,874
Development costs for petroleum resource	-	1,998,271	70,950	-	(62,643)	(144,432)	1,862,146
Brand contract-related assets (*1)	-	1,975,000	-	-	-	-	1,975,000
Developed technology	-	1,091,503	-	-	(45,552)	-	1,045,951
Others (*3)	12,736	1,783,591	132,705	(3,830)	(193,633)	237,546	1,969,115
	<u>₩ 79,269</u>	<u>₩ 9,834,901</u>	<u>₩ 236,544</u>	<u>₩ (18,598)</u>	<u>₩ (487,036)</u>	<u>₩ 77,271</u>	<u>₩ 9,722,351</u>

(\*1) Membership and brand contract-related assets are classified as intangible assets with infinite useful lives and are not amortized.

(\*2) This includes impairment loss, net translation differences, transfer to intangible assets from construction-in-progress and others.

(\*3) This comprises intangible assets recognized through business combination, software, usable and profitable donation assets and others.

(2) Impairment testing of brand contract-related assets

The Company has estimated the recoverable amount of brand-contract-related assets with indefinite useful lives for the impairment test. Significant assumptions to estimate the recoverable amounts reflected the management's expectation of future trend considered with external and internal (historical) information.

Significant assumptions used in impairment testing of brand contract-related assets as at December 31, 2016 are as follows:

	Growth rate (*1)	Discount rate (*2)
Value in use	1.00%	12.6%

(\*1) Future cash flows for additional periods after the estimated period are estimated using a fixed growth rate.

(\*2) The discount rate was estimated by adding risk premium to weighted average cost of capital.

As a result of goodwill impairment test of brand contract-related assets, the carrying amount does not exceed the recoverable amount, so there is no impairment loss recognized during the current reporting period.

**15. Borrowings and bonds payable**

(1) Details of borrowings and bonds payable as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016		December 31, 2015	
	Current	Non-current	Current	Non-current
Short-term borrowings (*1)	₩ 2,614,117	₩ -	₩ 2,726,701	₩ -
Bonds and long-term borrowings:				
Bonds payable	4,378,668	19,376,759	4,231,569	20,508,116
Long-term borrowings	1,250,909	3,756,747	1,261,811	2,988,187
	<u>5,629,577</u>	<u>23,133,506</u>	<u>5,493,380</u>	<u>23,496,303</u>
	<u>₩ 8,243,694</u>	<u>₩ 23,133,506</u>	<u>₩ 8,220,081</u>	<u>₩ 23,496,303</u>

(\*1) It includes transferred accounts receivable that has not been removed and borrowings collateralized for accounts receivable amounting to ₩356,441 million and ₩252,734 million as at December 31, 2016 and 2015, respectively.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**15. Borrowings and bonds payable (cont'd)**

(2) Details of bonds payable as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016	December 31, 2015
SK Holdings Co., Ltd.	₩ 5,410,000	₩ 5,120,000
SK Innovation Co., Ltd.	682,975	670,202
SK Lubricants Co., Ltd.	450,000	740,640
SK Energy Co., Ltd.	2,070,000	2,410,000
SK Global Chemical Co., Ltd.	840,000	1,184,400
SK Incheon Petrochem Co., Ltd.	1,630,000	1,850,000
SK Global Chemical Investment Hong Kong Ltd.	-	171,521
SK Telecom Co., Ltd.	5,627,514	5,638,051
SK Broadband Co., Ltd.	1,572,550	1,471,600
PS&Marketing Corp.	20,000	30,000
SK Networks Co., Ltd.	1,290,000	1,190,000
SKC Co., Ltd.	630,000	680,000
SKC Solmics Co., Ltd.	69,000	60,000
SK Telesys Co., Ltd.	40,000	40,000
SK Shipping Co., Ltd.	417,000	547,200
SK Shipping Europe Plc.	24,170	35,160
SK E&S Co., Ltd.	1,050,000	860,000
Paju Energy Service Co., Ltd. (formerly PMP Co., Ltd.)	500,000	500,000
Wirye Energy Service Co., Ltd.	250,000	250,000
Narae Energy Service Co., Ltd.	80,000	80,000
SK Engineering & Construction Co., Ltd.	595,000	600,000
SK Materials Co., Ltd.	100,000	-
	<u>23,348,209</u>	<u>24,128,774</u>
Addition: premium on bonds payable	407,218	610,911
Less: current portion	<u>(4,378,668)</u>	<u>(4,231,569)</u>
	<u>₩ 19,376,759</u>	<u>₩ 20,508,116</u>

(3) Details of long-term borrowings as at December 31, 2016 and 2015 are as follows (Korean won in millions):

Financial institution	Description	Interestrate (%)	December 31, 2016	December 31, 2015
Korea Development Bank and others	General	0.75 ~ 5.60	₩ 1,515,098	₩ 959,254
Korea Development Bank and others (*1)	Fund for facility	1.75 ~ 5.15	1,932,951	1,377,913
Export Kreditnamnden and others	Foreign long-term borrowings	1.70 ~ 6.00	218,041	658,624
Korea National Oil Corporation and others (*2)	Fund for mine exploration	0.00 ~ 7.00	61,681	157,906
Econg 1st Co., Ltd. and others	Callable preferred share	5.00 ~ 6.40	525,000	543,727
Korea Development Bank and others	Fund for operation	2.40 ~ 5.90	563,298	328,868
Kookmin Bank and others	Fund for supply pipeline	1.75	16,539	11,584
Kookmin Bank	Fund for catalyzing information	1.29	4,083	10,573
Kookmin Bank and others	Fund for reasonableenergy consumption	1.50 ~ 1.80	3,829	30,706
E1 Corporation	Versatile fund for peer construction	-	-	198
KEB Hana Bank and others	Fund for safety management	1.75	1,564	467
D&D Growth Strategy Limited and others	Others	-	<u>158,563</u>	<u>149,588</u>
			5,000,647	4,229,408
Addition: Premium			7,009	20,590
Less: Current portion			<u>(1,250,909)</u>	<u>(1,261,811)</u>
			<u>₩ 3,756,747</u>	<u>₩ 2,988,187</u>

(\*1) The borrowings from Korea Development Bank amounting to ₩189,822 million of SK Global Chemical Co., Ltd., a subsidiary of the Company, are related to the facility borrowings of Ulsan Aromatics Co., Ltd., which is accounted as joint operation, and the amount that the Group has obligation of redemption according to cash deficiency support agreement is recorded as borrowings as at December 31, 2016.

**15. Borrowings and bonds payable (cont'd)**

(\*2) As at December 31, 2016, the Group holds loans from Korea National Oil Corporation (KNOC) for the purpose of oil exploration and development in which there is no repayment obligation on ₩47,427 million based on the successful effort method, and interest expense will be recognized upon successful commercial production.

Long-term borrowings presented above are to be repaid either in installments or all at once at maturity. Financial instruments and other assets of the Group are pledged as detailed in Note 34.

**16. Long-term other accounts payable**

Details of long-term other accounts payable as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016			
	Nominal value	Premium (discount) on long-term other payable		Long-term other accounts payable
			Current portion	
Bare Boat Charter Hire Purchase contract (*1)	₩ 3,741,583	₩ (357,930)	₩ (465,665)	₩ 2,917,988
Frequency usage right	2,013,122	(77,678)	(301,773)	1,633,671
Others	75,224	(380)	(24,727)	50,117
	<u>₩ 5,829,929</u>	<u>₩ (435,988)</u>	<u>₩ (792,165)</u>	<u>₩ 4,601,776</u>

	December 31, 2015			
	Nominal value	Premium (discount) on long-term other payable		Long-term other accounts payable
			Current portion	
Bare Boat Charter Hire Purchase contract (*1)	₩ 3,093,868	₩ (323,184)	₩ (388,672)	₩ 2,382,012
Frequency usage right	709,888	9,694	(120,185)	599,397
Others	80,679	(2,870)	(24,591)	53,218
	<u>₩ 3,884,435</u>	<u>₩ (316,360)</u>	<u>₩ (533,448)</u>	<u>₩ 3,034,627</u>

(\*1) Under the Bare Boat Charter Hire Purchase contracts, if certain requirements are met, creditors have reimbursement recourse options that allow an early redemption of the bond before the due date. Most of the Bare Boat Charter Hire Purchase contracts are based on the contracts of affreightment with Korea Gas Corporation and others as detailed in Note 33.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**17. Provisions**

Changes in the provisions for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

For the year ended December 31, 2016							
	Beginning balance	Business combination	Increase	Decrease	Ending balance	Current	Non-current
Provision for sale warranties	₩ 9,607	₩ 1,319	₩ 5,662	₩ (552)	₩ 16,036	₩ 2,316	₩ 13,720
Provision for handset subsidy	5,671	-	37,530	(18,490)	24,711	19,939	4,772
Provision for service / construction warranties	49,491	5	14,929	(6,864)	57,561	57,561	-
Provision for restoration	93,920	671	24,074	(2,646)	116,019	38,703	77,316
Provision for losses on contracts	178,370	-	127,495	(150,711)	155,154	155,154	-
Other provisions (*1)	103,441	9,235	74,698	(31,721)	155,653	147,130	8,523
	<u>₩ 440,500</u>	<u>₩ 11,230</u>	<u>₩ 284,388</u>	<u>₩ (210,984)</u>	<u>₩ 525,134</u>	<u>₩ 420,803</u>	<u>₩ 104,331</u>

(\*1) Other provisions include greenhouse gas emissions provision of ₩4,397 million, and the provision is recognized only when actual emissions exceed the emission rights granted and still held. Permitted greenhouse gas emissions were 12,174,688 KAU, and estimated greenhouse gas emissions were 12,001,988 KAU in 2016.

For the year ended December 31, 2015							
	Beginning balance	Business combination	Increase	Decrease	Ending balance	Current	Non-current
Provision for sale warranties	₩ 334	₩ 3,731	₩ 5,615	₩ (73)	₩ 9,607	₩ 807	₩ 8,800
Provision for handset subsidy	-	5,582	2,230	(2,141)	5,671	2,233	3,438
Provision for service / construction warranties	4,539	44,151	12,757	(11,956)	49,491	49,491	-
Provision for restoration	-	88,027	16,034	(10,141)	93,920	34,549	59,371
Provision for losses on contracts	-	32,633	150,586	(4,849)	178,370	178,209	161
Other provisions	-	84,378	41,395	(22,332)	103,441	39,731	63,710
	<u>₩ 4,873</u>	<u>₩ 258,502</u>	<u>₩ 228,617</u>	<u>₩ (51,492)</u>	<u>₩ 440,500</u>	<u>₩ 305,020</u>	<u>₩ 135,480</u>

**18. Retirement benefit obligation**

(1) Details of retirement benefit obligation as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016	December 31, 2015
Present value of defined benefit obligation	₩ 1,961,251	₩ 1,736,303
Fair value of plan assets (*1)	(1,770,247)	(1,470,600)
Total	<u>₩ 191,004</u>	<u>₩ 265,703</u>

(\*1) The Group has recognized ₩38,374 million as defined benefit assets as at December 31, 2016.



**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**18. Retirement benefit obligation (cont'd)**

(2) Changes in the retirement benefit obligation for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the year ended December 31, 2016		
	Present value of defined benefit obligation	Fair value of plan assets	Total
Beginning balance	₩ 1,736,303	₩ (1,470,600)	₩ 265,703
Business combination	54,506	(19,705)	34,801
Provision for pension benefits:			
Current service cost	305,614	-	305,614
Past service cost	402	-	402
Net interest expense (income)	41,749	(34,561)	7,188
Remeasurement:			
Return on plan assets			
(excluding amounts included in net interest expenses)	-	10,584	10,584
Actuarial changes arising from changes in financial assumptions and others	15,714	-	15,714
Contributions by employer directly to plan assets	-	(403,083)	(403,083)
Benefit paid	(201,006)	135,057	(65,949)
Others	7,969	12,061	20,030
Ending balance	₩ 1,961,251	₩ (1,770,247)	₩ 191,004

	For the year ended December 31, 2015		
	Present value of defined benefit obligation	Fair value of plan assets	Total
Beginning balance	₩ 185,259	₩ (167,288)	₩ 17,971
Business combination	1,448,710	(1,111,067)	337,643
Provision for pension benefits:			
Current service cost	150,293	-	150,293
Past service cost	5,970	-	5,970
Net interest expense (income)	24,533	(17,682)	6,851
Remeasurement:			
Return on plan assets			
(excluding amounts included in net interest expenses)	-	5,137	5,137
Actuarial changes arising from changes in financial assumptions and others	4,726	-	4,726
Contributions by employer directly to plan assets	-	(236,374)	(236,374)
Benefit paid	(85,138)	62,340	(22,798)
Others	1,950	(5,666)	(3,716)
Ending balance	₩ 1,736,303	₩ (1,470,600)	₩ 265,703

(3) As at December 31, 2016 and 2015, 73.76% and 82.68% of the plan assets, respectively, consist of cash and cash equivalents and debt instruments.

(4) The principal assumptions used in actuarial calculation as at December 31, 2016 and 2015 are as follows:

	December 31, 2016	December 31, 2015
Discount rate for defined benefit obligations	1.90% ~ 3.24%	1.90% ~ 3.07%
Expected rate of salary increase	1.39% ~ 6.30%	1.65% ~ 7.04%

**18. Retirement benefit obligation (cont'd)**

(5) The sensitivity analysis for significant actuarial assumptions as at December 31, 2016 is as follows (Korean won in millions).

	Impact on the defined benefit obligation		
	Sensitivity level	Increase	Decrease
Discount rate	0.5%	₩ (48,001)	₩ 56,492
Expected rate of salary increase	0.5%	55,641	(47,746)

The sensitivity analysis above has been done under the assumption that all other variables remain unchanged. However, actual results may change through the interaction among other variables.

**19. Other assets and liabilities**

(1) Details of other assets as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016		December 31, 2015	
Current assets:				
Short-term financial instruments	₩	4,265,992	₩	2,741,181
Short-term loans		239,915		252,541
Accrued income		23,782		51,198
Advance payments		676,453		895,724
Prepaid expenses		665,088		605,783
Held-to-maturity investments		67		45
Guarantee deposits		192,214		187,958
Derivative financial assets		151,163		272,216
Finance lease receivables		79,896		74,107
Others		6,690		9,954
	₩	<u>6,301,260</u>	₩	<u>5,090,707</u>
Non-current assets:				
Long-term financial instruments	₩	131,033	₩	212,987
Long-term prepaid expenses		1,203,876		1,282,744
Long-term loans		314,455		239,397
Held-to-maturity investments		870		915
Guarantee deposits		732,770		624,592
Derivative financial assets		252,028		197,565
Finance lease receivables		275,288		345,545
Defined benefit assets (*1)		38,374		-
Others		87,569		116,324
	₩	<u>3,036,263</u>	₩	<u>3,020,069</u>

(\*1) The excess amount of certain plans in the Group has not been offset because the amount was not entitled and intended to settle the defined benefit obligation of other plans (see Note 18).

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**19. Other assets and liabilities (cont'd)**

(2) Details of other liabilities as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016		December 31, 2015	
Current liabilities:				
Accrued expenses	₩	2,480,547	₩	2,563,103
Dividends payable		614		2,369
Advance received		1,828,650		2,039,180
Unearned revenue		267,063		292,986
Withholdings		1,934,365		1,646,467
Leasehold deposits received		125,157		135,830
Income tax payable		955,295		780,377
Derivative financial liabilities		256,073		102,371
Finance lease liabilities		1,747		1,756
Others		561		5,124
	₩	7,850,072	₩	7,569,563
Non-current liabilities:				
Long-term unearned revenue	₩	365,904	₩	290,150
Leasehold deposits received		357,384		247,265
Derivative financial liabilities		51,678		137,703
Finance lease liabilities		1,864		3,603
Financial guarantee liabilities		9,120		12,076
Others		50,554		53,863
	₩	836,504	₩	744,660

**20. Derivative financial assets and liabilities**

(1) Details of derivative financial assets and liabilities as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016		December 31, 2015	
	Current	Non-current	Current	Non-current
Firm contracts	₩ 84,296	₩ -	₩ 125,694	₩ (510)
Swap contracts	(169,632)	197,183	42,075	57,612
Forward contracts	(20,206)	3,167	(3,336)	(351)
Futures contracts	1,051	-	5,412	-
Options contracts	(419)	-	-	3,111
	₩ (104,910)	₩ 200,350	₩ 169,845	₩ 59,862
Derivative financial assets	₩ 151,163	₩ 252,028	₩ 272,216	₩ 197,565
Derivative financial liabilities	(256,073)	(51,678)	(102,371)	(137,703)

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**20. Derivative financial assets and liabilities (cont'd)**

(2) The Group has entered into derivatives (such as foreign exchange forwards, foreign exchange swap and interest swap) contracts in order to avoid exchange rate risk of foreign currency assets and liabilities and the interest rate risk associated with debts. As at December 31, 2016, significant derivative financial instruments that the Group holds as a hedge or held-for-trading are as follows:

Segments	Purpose of transaction	Classification	Financial institutes
SK Holdings Co., Ltd.	Hedge of foreign currency exchange risk of foreign currency denominated contract	Foreign exchange forwards	KEB Hana Bank
SK Innovation Co., Ltd.	Fair value hedge of fixed priced aviation fuel supply contract Cash flow hedge of forecasted purchase of crude oil, forecasted sales of products and the risk of changes in market interest rates	Swaps for oil and others Foreign exchange swaps and interest swaps	Barclays Bank and others Societe Generale, DBS Bank and others
SK Telecom Co., Ltd.	Hedge of foreign currency exchange risk of foreign currency denominated bond, hedge of currency exchange, and interest rate risk of floating rate foreign currency denominated bond and the risk of changes in market interest rates	Foreign exchange swaps and interest swaps	Korea Development Bank, DBS Bank, Citibank and others
SK Networks Co., Ltd.	Hedge of foreign currency exchange risk of foreign currency denominated debt and bond	Foreign exchange forwards	KEB Hana Bank, Kookmin Bank and others
SKC Co., Ltd.	Hedge of foreign currency exchange risk of foreign currency and others	Foreign exchange forwards and others	KEB Hana Bank, Woori Bank
SK Shipping Co., Ltd.	Hedge of interest rate risk of floating rate foreign currency denominated bond and long term payables Hedge of currency exchange and interest rate risk of long term borrowings Hedge of bunker price change risk	Interest swaps Foreign exchange swaps Bunker forwards	Credit Agricole and others Korea Development Bank and Standard Chartered Bank Eugene Investment Co., Ltd. and others
SK E&S Co., Ltd.	Hedge of foreign currency exchange risk of foreign Currency denominated borrowings and hedge of interest Rate of floating rate borrowings. Cash flow hedge of natural gas purchase contract	Foreign exchange forwards and interest rate swaps Merchandise swaps	Korea Development Bank and Woori Bank Barclays Bank and JP Morgan
SK Engineering & Construction Co., Ltd.	Hedge of changes in revenue from construction contract denominated in foreign currency Hedge of changes in construction cost of construction contract denominated in foreign currency	Foreign exchange forwards Foreign exchange forwards	JP Morgan, HSBC, ANZ and others Goldman Sachs, JP Morgan and others

**21. Equity**

Details of issued capital as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016	December 31, 2015
Number of shares authorized for issued	400,000,000	400,000,000
Per share (Korean won)	₩ 200	₩ 200
Number of shares issued:		
Ordinary share	70,360,297	70,360,297
Preferred share	566,135	566,135
Issued capital:		
Ordinary share	₩ 15,272	₩ 15,272
Preferred share	113	113
	<u>₩ 15,385</u>	<u>₩ 15,385</u>

The Company retired 6,000,000 shares of its treasury share (par value: ₩1,200 million) by reducing retained earnings, which resulted in a difference between total par value of ordinary shares and issued capital

Details of other paid-in capital as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016	December 31, 2015
Paid-in surplus (*1)	₩ 5,605,831	₩ 5,605,831
Treasury shares (*2)	(904,490)	(904,490)
Others	39,798	72,624
	<u>₩ 4,741,139</u>	<u>₩ 4,773,965</u>

(\*1) During the year ended December 31, 2015, the Company repurchased treasury shares of ₩3,369,310 million from merger with SK Holdings Co., Ltd. which was recognized as a contra-equity account on additional paid-in capital.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**21. Equity (cont'd)**

(\*2) As at December 31, 2016, treasury stock consists of those acquired to increase the enterprise value and to stabilize share price (3,514,276 ordinary shares), and those acquired from repurchase of shares from dissenting shareholders on business combination and shares arising from odd lot shares (11,021,664 ordinary shares and 1,818 preferred shares) during the previous reporting period. There are no additional acquisitions or disposals during the current period.

Details of retained earnings as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	<u>December 31, 2016</u>	<u>December 31, 2015</u>
Legal reserve (*1)	₩ 7,693	₩ 5,100
Voluntary reserve	80,896	102,563
Unappropriated retained earnings	<u>8,279,533</u>	<u>7,694,050</u>
	<u>₩ 8,368,122</u>	<u>₩ 7,801,713</u>

(\*1) In accordance with the Korean Commercial Code, an amount equal to at least 10% of cash dividends is required to be appropriated as a legal reserve until the reserve equals 50% of issued capital. The legal reserve may not be utilized for cash dividends but may only be used to offset a deficit, if any, or be transferred to issued capital through approval at the general meeting of the shareholders.

Details of dividends proposed for approval at the annual ordinary shareholders' meeting for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended			
	<u>December 31, 2016</u>		<u>December 31, 2015</u>	
	<u>Ordinary share</u>	<u>Preferred share</u>	<u>Ordinary share</u>	<u>Preferred share</u>
Number of shares (*1)	55,824,357	564,317	55,824,357	564,317
Par value per share (Korean won) ₩	200	₩ 200	₩ 200	₩ 200
Dividend rate	<u>1,850%</u>	<u>1,875%</u>	<u>1,700%</u>	<u>1,725%</u>
Dividends	<u>₩ 206,550</u>	<u>₩ 2,116</u>	<u>₩ 189,803</u>	<u>₩ 1,947</u>

(\*1) The total number of shares was calculated from the number of issued shares, excluding treasury shares.

Details of other capital components as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	<u>December 31, 2016</u>	<u>December 31, 2015</u>
Net loss on valuation of available-for-sale financial assets	₩ (2,054)	₩ (12,759)
Changes in equity in equity method	(48,190)	(10,535)
Net gain (loss) on valuation of cash flow hedges	(16,807)	1,981
Net gain (loss) on translation of foreign operation	50,545	(3,932)
Net gain on foreign currency translation	4,217	700
	<u>₩ (12,289)</u>	<u>₩ (24,545)</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**22. Selling and administrative expenses**

Details of selling and administrative expenses for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Salaries	₩ 1,038,994	₩ 476,793
Provision for pension benefits	93,900	48,044
Employee welfare benefits	181,489	86,762
Travel	52,926	23,401
Bad debt expenses	255,058	469,132
Utilities	40,711	16,178
Taxes and dues	83,028	44,819
Supplies	17,005	6,120
Rents	160,043	69,623
Depreciation	211,150	93,369
Amortization	144,456	58,109
Repairs	20,042	11,748
Insurance	21,529	6,678
Advertising	602,270	281,395
Research and development	237,025	110,569
Education and examination	52,069	19,420
Outsourcing technology services	562,799	320,005
Commissions	19,317	11,495
Transport	610,637	298,478
Others	145,173	57,908
	<u>₩ 4,549,621</u>	<u>₩ 2,510,046</u>

**23. Financial income and costs**

Details of financial income and costs for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Financial income:		
Interest income	₩ 202,213	₩ 80,338
Gain on foreign currency transactions	1,388,264	716,055
Gain on foreign currency translation	340,543	428,409
Gain on transactions of derivatives	484,967	346,296
Gain on valuation of derivatives	142,624	166,622
Others	3,569	2,927
	<u>₩ 2,562,180</u>	<u>₩ 1,740,647</u>

	For the years ended	
	December 31, 2016	December 31, 2015
Financial costs:		
Interest expenses	₩ 799,259	₩ 353,559
Loss on foreign currency transactions	1,407,214	824,737
Loss on foreign currency translation	410,801	402,331
Loss on transactions of derivatives	589,218	429,455
Loss on valuation of derivatives	168,091	-
Others	4,017	55
	<u>₩ 3,378,600</u>	<u>₩ 2,010,137</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**24. Other non-operating income and expenses**

(1) Details of other non-operating income for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Other non-operation income:		
Dividend income	₩ 39,859	₩ 28,311
Rental income	254	143
Gain on disposal of trade accounts receivable	18,639	-
Gain on disposal of available-for-sale financial assets	96,936	20,403
Gain on disposal of investments in associates and joint ventures	5,475	36,544
Gain on disposal of investments in subsidiaries	44,448	419,772
Gain on disposal of property, plant and equipment	21,089	29,998
Gain on disposal of intangible assets	3,229	614
Gain on disposal of other investment property	46,075	-
Gain on bargain purchase	-	4,992,585
Others	377,615	98,603
	<u>₩ 653,619</u>	<u>₩ 5,626,973</u>

(2) Details of other non-operating expenses for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Other non-operation expenses:		
Loss on disposal of trade accounts receivable	₩ 11,744	₩ 4,654
Loss on disposal of available-for-sale financial assets	21,476	93,147
Loss on impairment of available-for-sale financial assets	32,603	79,862
Loss on disposal of investments in associates and joint ventures	10,953	380,996
Loss on impairment of investments in associates and joint ventures	216,385	17,551
Loss on disposal of investments in subsidiaries	14,124	9,144
Loss on disposal of property, plant and equipment	94,149	53,422
Loss on impairment of property, plant and equipment	253,677	5,569
Loss on disposal of intangible assets	16,936	3,045
Loss on impairment of intangible assets	312,260	111,086
Loss on disposal of other investment property	-	394
Loss on impairment of other investment property	24,947	20,689
Donations	178,989	55,869
Others	290,654	305,649
	<u>₩ 1,478,897</u>	<u>₩ 1,141,077</u>

**25. Expense classified based on nature of expense**

Details of classification based on nature of expenses for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Employee benefits	₩ 5,284,114	₩ 2,458,439
Depreciation and amortization	5,213,205	2,200,263
Network connection	958,958	405,211
Transport	729,252	338,790
Advertising	612,887	284,009
Operating lease payments and rents	1,193,080	490,288
Others	15,864,661	8,566,472
Use of raw materials and purchase of finished goods and merchandise	48,498,646	22,702,618
Changes in finished goods and semi-finished good	(35,488)	446,682
	<u>₩ 78,319,315</u>	<u>₩ 37,892,772</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**26. Income taxes**

(1) Components of income tax expense for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Current income tax	₩ 1,367,428	₩ 679,805
Adjustments in respect of current income tax of prior year	1,678	28,116
Origination and reversal of temporary difference	(165,282)	(1,019,065)
Income tax related to other capital components	97,939	862,057
Others	6,905	(5,736)
Income tax expense	<u>₩ 1,308,668</u>	<u>₩ 545,177</u>
Income tax expense from continuing operation	₩ 1,354,029	581,645
Income tax benefits from discontinued operation	(45,361)	(36,468)

(2) Details of tax effect on temporary difference charged or credited directly to shareholders' equity for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Remeasurement gain on defined benefit plan	₩ 5,182	₩ 1,275
Gain on valuation of available-for-sale financial assets	83,836	25,505
Equity adjustments of investments in associates and joint ventures	6,293	14,738
Gain (loss) on valuation of derivatives	636	(7,547)
Paid-in capital surplus	-	815,373
Others	1,992	12,713
	<u>₩ 97,939</u>	<u>₩ 862,057</u>

(3) Reconciliations of income before income tax at the Korea statutory tax rate to income tax expense at the effective income tax rate of the Group for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Income before income tax expense	₩ 4,131,152	₩ 6,094,436
Income before income tax expense from continuing operations	4,375,819	6,288,064
Loss before income tax expense from discontinued operations	(244,667)	(193,628)
Applied tax rates (*1)	24.2%	24.2%
Income tax at statutory income tax rate	999,739	1,474,854
Non-taxable income	(187,731)	(109,346)
Non-deductible expenses	122,847	61,280
Tax credit	(44,476)	(30,313)
Unrecognized deferred income tax	9,556	310,583
Use of the unrecognized loss carried forward	(28,971)	(5,460)
Effect of changes in tax rates	(6,678)	210
Effect of business combinations	-	(1,208,206)
Others (*1)	444,382	51,575
Income tax expense	<u>₩ 1,308,668</u>	<u>₩ 545,177</u>
Income tax expense from continuing operations	₩ 1,354,029	₩ 581,645
Income tax benefits from discontinued operations	(45,361)	(36,468)
Effective tax rate	30.9%	9.2%

(\*1) The Company is subject to corporate income tax of Republic of Korea where the parent company is located. For the year ended December 31, 2016, the difference between the Korean tax burdens and the foreign tax burdens on foreign subsidiaries amounting to ₩466,700 million is included in others.



**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**26. Income taxes (cont'd)**

(4) Significant changes in deferred tax assets (liabilities) for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the year ended December 31, 2016					
	Beginning balance	Business combination	Recognized directly in profit or loss	Recognized directly in equity	Others	Ending balance
Temporary differences	₩ (2,581,803)	₩ (134,735)	₩ (100,299)	₩ 97,939	₩ (80,908)	₩ (2,799,806)
Tax loss carryforward	327,813	2,962	153,782	-	(138,737)	345,820
Tax credits carryforward	(77,239)	-	13,860	-	130,448	67,069
	<u>₩ (2,331,229)</u>	<u>₩ (131,773)</u>	<u>₩ 67,343</u>	<u>₩ 97,939</u>	<u>₩ (89,197)</u>	<u>₩ (2,386,917)</u>
Deferred tax assets (*1)	₩ 629,235					₩ 711,591
Deferred tax liabilities (*1)	(2,960,464)					(3,098,508)

  

	For the year ended December 31, 2015					
	Beginning balance	Business combination	Recognized directly in profit or loss	Recognized directly in equity	Others	Ending balance
Temporary differences	₩ (661,519)	₩ (2,988,302)	₩ 275,807	₩ 862,057	₩ (69,846)	₩ (2,581,803)
Tax loss carryforward	-	319,602	8,219	-	(8)	327,813
Tax credits carryforward	-	50,535	(127,018)	-	(756)	(77,239)
	<u>₩ (661,519)</u>	<u>₩ (2,618,165)</u>	<u>₩ 157,008</u>	<u>₩ 862,057</u>	<u>₩ (70,610)</u>	<u>₩ (2,331,229)</u>
Deferred tax assets (*1)	₩ 19,575					₩ 629,235
Deferred tax liabilities (*1)	(681,094)					(2,960,464)

(\*1) The Group offsets tax assets and liabilities if, and only if, it has a legally enforceable right to set off current tax assets and current tax liabilities and the deferred tax assets and deferred tax liabilities related to income taxes are levied by the same tax authority.

(5) The expected expiration schedule of tax loss carryforward and tax credits carryforward for which deferred tax assets are not recognized as at December 31, 2016 is as follows (Korean won in millions):

	Tax loss carryforward	Tax credits carryforward
1 year or less	₩ 12,647	₩ 154
1 year ~ 2 years	33,658	1,708
2 year ~ 3 years	320,630	174
More than 3 years	562,311	4,504
	<u>₩ 929,246</u>	<u>₩ 6,540</u>

**27. Earnings per share**

(1) Basic earnings per share for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions, except per share and weighted-average number of ordinary shares outstanding):

	For the years ended	
	December 31, 2016	December 31, 2015
Net income attributable to owners of the Company	₩ 765,580	₩ 5,345,978
Less: preferred share dividends	(2,116)	(1,947)
Net income attributable to ordinary share owners of the Company	763,464	5,344,031
Weighted-average number of ordinary share outstanding (*1)	55,824,357	49,517,825
Basic earnings per share (in Korean won) (*2)	<u>₩ 13,676</u>	<u>₩ 107,921</u>

(\*1) The weighted-average number of common share outstanding is calculated by multiplying the number of shares issued by the portion of the reporting period those shares covered. The treasury shares held until the disposal date, after the date of acquisition, are excluded from the number of common shares outstanding.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**27. Earnings per share (cont'd)**

(\*2) Basic earnings per share are net income attributable to share owners of the parent per ordinary share.

The basis of calculating weighted-average number of ordinary shares for the years ended December 31, 2016 and 2015 is as follows:

	For the years ended	
	December 31, 2016	December 31, 2015
Weighted-average number of issued shares outstanding	70,360,297	56,900,727
Weighted-average number of treasury shares	(14,535,940)	(7,382,902)
Weighted-average number of ordinary shares outstanding	<u>55,824,357</u>	<u>49,517,825</u>

(2) Basic earnings per share from continuing operations

Basic earnings per share from continuing operations for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions, except basic earnings per share and weighted-average number of common shares outstanding):

	For the years ended	
	December 31, 2016	December 31, 2015
Net income attributable to owners of the Company	₩ 763,464	₩ 5,344,031
Addition: loss from discontinued operations	10,188	45,979
Income from continuing operations attributable to owners of the Company	₩ 773,652	₩ 5,390,010
Weighted-average number of ordinary shares outstanding	<u>55,824,357</u>	<u>49,517,825</u>
Basic earnings per share from continuing operations (in Korean won)	<u>₩ 13,859</u>	<u>₩ 108,850</u>

(3) Basic losses per share from discontinued operations

Basic losses per share from discontinued operations for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions, except basic losses per share and weighted-average number of ordinary shares outstanding):

	For the years ended	
	December 31, 2016	December 31, 2015
Loss from discontinued operations	₩ (10,188)	₩ (45,979)
Weighted-average number of ordinary shares outstanding	<u>55,824,357</u>	<u>49,517,825</u>
Basic losses per share from discontinued operations (in Korean won)	<u>₩ (183)</u>	<u>₩ (922)</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**28. Transactions with related parties**

Balances on transactions arising from intercompany transactions within the Group were eliminated in preparing the consolidated financial statements as at and for the years ended December 31, 2016 and 2015.

(1) Details of significant transactions with the related parties for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	December 31, 2016	
	Revenue	Expenses
Daehan Oil Pipeline Corporation	₩ 5,111	₩ 49,283
Oilhub Korea Yeosu Co., Ltd.	-	13,153
Netruck Franz Co., Ltd.	117	-
F&U Credit Information Co., Ltd.	3,061	48,995
SK Wyverns Baseball Club Co., Ltd.	2,240	18,583
Hana Card Co., Ltd.	19,866	41,016
Health Connect Co., Ltd.	9	2,751
SK Hynix Inc.	1,328,577	2,020
SK Hystec Inc.	20,487	1,411
SK Hyeng Inc.	20,263	5,732
SK Hynix Semiconductor HK Ltd.	233	571,188
SKC Haas Display Film Co., Ltd.	60,184	854
SKC HAAS FILM Co., Ltd. (Suzhou)	13,691	94
SKC-KOLON PI Co., Ltd.	2,154	30
SKC Evonik Peroxide Korea Co., Ltd.	287	39,145
SKC MNT Co., Ltd.	3,608	22,279
Mitsui Chemicals & SKC Polyurethanes Inc.	201,854	30,271
TSF Co., Ltd.	2,534	165
AnTS Co., Ltd.	175	59,919
Ocean Maritime HongKong Ltd.	2,327	5,952
Boryeong LNG Terminal Co., Ltd	94,194	-
Daejeon Clean Water Co., Ltd.	2,616	-
Gwangju Clean Water Co., Ltd.	499	-
Ecopluscity. Co., Ltd.	1,521	-
Eurasia Tunnel	110,147	-
XE-PIAN XE-NAMNOY Power Company	250,085	-
Hana land chip PEF 33	16,211	34,377
Mobile TCS Co., Ltd.	755	8,274
SK Gas Co., Ltd.	334,394	519,607
SK Advanced Co., Ltd.	100,796	16,557
G. Hub Co., Ltd.	1,256	45,895
SK Gas International Pte. Ltd.	18,492	1,708
SK Chemicals Co., Ltd.	106,074	105,472
SK D&D Co., Ltd.	3,261	9,494
SK PETROCHEMICAL Co., Ltd.	57,528	3,250
SK SECURITIES Co., Ltd.	27,302	285
Others	264,973	423,647
	<u>₩ 3,076,882</u>	<u>₩ 2,081,407</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**28. Transactions with related parties (cont'd)**

	December 31, 2015	
	Revenue	Expenses
SK Innovation Co., Ltd. (*1)	₩ 19,416	₩ 175
Daehan Oil Pipeline Corporation	398	20,109
SK Biopharmaceuticals Co.,Ltd. (*1)	1,850	-
SK Lubricants Co., Ltd. (*1)	2,403	58
SK Energy Co., Ltd. (*1)	19,478	-
SK Global Chemical Co., Ltd. (*1)	6,770	-
Hana land chip PEF 33	-	14,957
SK Holdings Co., Ltd. (*1)	40,575	2,417
SK Incheon Petrochem Co., Ltd. (*1)	2,977	-
SK Incheon Petrochem Co., Ltd. (*1)	1,367	-
Oilhub Korea Yeosu Co., Ltd.	-	3,735
Hiplex Co., Ltd.	586	11
Korea Nexlene Company	57,247	347
SK BIOTEK Co., Ltd. (*1)	408	-
SK China Company, Ltd. (*1)	869	-
Netruck Franz Co., Ltd.	266	-
SK Energy & Construction Co., Ltd. (*1)	11,328	1
Ecopluscity Co., Ltd.	4,597	41
Eurasia Tunnel	63,620	-
XE-PIAN XE-NAMNOY Power Company	87,485	-
CHUNGJU MEGAPOLIS Co., Ltd.	22,206	-
SK TNS Co., Ltd.	1,826	191,128
SKC Co., Ltd. (*1)	5,160	-
SK Telesys Co., Ltd. (*1)	576	-
SK Mobile Energy Co., Ltd. (*1)	201	-
SKC Haas Display Film Co., Ltd.	23,513	215
SKC HAAS FILM Co., Ltd. (Suzhou)	4,588	10
SKC-KOLON PI Co., Ltd.	529	11
SKC Evonik Peroxide Korea Co., Ltd.	-	20,620
SKC MNT Co., Ltd.	1,201	7,654
TSF Co., Ltd.	937	154
AnTS Co., Ltd.	29	5,955
SK SECURITIES Co., Ltd.	10,862	106
SK E&S Co., Ltd. (*1)	30,347	-
Kangwon City Gas Co., Ltd. (*1)	118	-
Yeongnam energy service Co., Ltd. (*1)	284	7
Pusan City Gas Co., Ltd. (*1)	305	-
SK Gas Co., Ltd.	80,898	233,460
Chungcheong Energy Service Co., Ltd. (*1)	193	-
SK Advanced Co., Ltd	119,992	-
Boryeong LNG Terminal Co., Ltd.	89,337	-
G. Hub Co., Ltd	439	19,301
SK Chemicals Co., Ltd.	39,954	46,644
SK D&D Co., Ltd.	182	7,389
SK PETROCHEMICAL CO., LTD.	21,951	3,397
UBcare Co., Ltd.	26	5,320
Ocean Maritime HongKong Ltd.	373	2,255
SK Wyverns Baseball Club Co., Ltd.	678	7,613
SK Networks Co., Ltd. (*1)	26,184	6,516
HAPPYNARAE Co., Ltd. (*1)	13	681
SK Networks Service Co., Ltd. (*1)	398	677
SK Pinx Co., Ltd. (*1)	3	158
SK Shipping Co., Ltd. (*1)	1,697	-
SK Telecom Co., Ltd. (*1)	246,752	5,229
F&U Credit Information Co., Ltd.	1,188	18,648
SK Telink Co., Ltd. (*1)	2,418	352
SK Communications Co., Ltd. (*1)	216	-
Commerce Planet Co., Ltd. (*1)	143	-
SK Broadband Co., Ltd. (*1)	64,561	6,051
PS&Marketing Corp. (*1)	1,710	157
Hana Card Co., Ltd.	11,014	6,703
Networks Co., Ltd. (*1)	280	-
Television Media Korea Inc.	788	661
Health Connect Co., Ltd.	24	1,354
SK Hyeng Inc.	6,595	6,311
SK Planet Co., Ltd. (*1)	39,435	2,536
Daejeon Clean Water Co., Ltd.	1,251	-
Gwangju Clean Water Co., Ltd.	267	-

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**28. Transactions with related parties (cont'd)**

	December 31, 2015	
	Revenue	Expenses
SK Gas International Pte. Ltd.	8,869	1,871
Mitsui Chemicals & SKC Polyurethanes, Inc.	118,525	14,125
SK Hynix Inc.	464,488	906
SK Hystec Inc.	9,770	794
SK Hynix Semiconductor HK Ltd.	-	147,992
Others	87,250	58,899
	<u>₩ 1,872,184</u>	<u>₩ 873,711</u>

(\*1) The amounts represent the cumulative amounts arising from the transactions between the Group and other related parties prior to the acquisition of SK Holdings Co., Ltd. in 2015. The other related parties have been included in the Group's consolidated subsidiaries since the acquisition.

(2) Details of significant outstanding balances of receivables and payables with the related parties as at December 31, 2016 and 2015 are as follows (Korean won in millions):

Company name	December 31, 2016		December 31, 2015	
	Receivables (*1)	Payables	Receivables (*1)	Payables
Daehan Oil Pipeline Corporation	₩ 53	₩ 519	₩ 18	₩ 1,262
Oilhub Korea Yeosu Co., Ltd.	-	1,244	-	825
Korea Consortium Kazakh B.V.	146,170	-	35,237	-
F&U Credit Information Co., Ltd.	39	1,386	77	1,024
SK Wyverns Baseball Club Co., Ltd.	5,011	-	5,519	-
Wave City Development Co., Ltd.	64,804	-	63,307	-
Hana Card Co., Ltd.	1,812	7,684	5,199	9,051
Health Connect Co., Ltd.	7	786	10	837
SK Hynix Inc.	381,995	249,635	285,472	6,520
SK Hystec Inc.	2,374	170	3,416	476
SK Hyeng Inc.	2,782	2,283	1,865	1,429
SK Hynix Semiconductor HK Ltd.	-	72,507	-	21,415
SKC Haas Display Film Co., Ltd.	12,801	37,782	6,227	37,706
SKC HAAS FILM Co., Ltd. (Suzhou)	3,999	-	2,454	-
SKC Evonik Peroxide Korea Co., Ltd.	-	4,831	-	4,449
SKC MNT CO., Ltd.	464	3,002	221	1,287
Mitsui Chemicals & SKC Polyurethanes, Inc.	27,814	2,086	42,468	1,456
TSF Co., Ltd.	555	70	281	81
AnTS Co., Ltd.	33	28,958	-	11,643
Ocean Maritime HongKong Ltd.	114	16	10	9
Boryeong LNG Terminal Co., Ltd	1,025	28,779	182	2,248
Pentaport Development Co., Ltd.	105,367	-	95,536	-
Daejeon Clean Water Co., Ltd.	1,022	-	893	-
Gwangju Clean Water Co., Ltd.	246	-	239	-
Ecopluscity. Co., Ltd.	-	-	4,183	-
SK TNS Co., Ltd.	-	-	687	44,378
Eurasia Tunnel	13,076	59,660	10,898	19,328
SK E&C JURONG Investment Singapore Pte. Ltd.	60,007	-	67,256	-
XE-PIAN XE-NAMNOY Power Company	54,528	-	12,911	56,070
SK E&C USA, Inc.	3,753	42	1,494	-
SBC General Trading & Contracting Co. WLL	2,968	555	3,109	545
SK GAS CO., LTD.	33,833	103,956	24,796	92,602
SK Advanced Co., Ltd	2,248	7,933	177	-
G. Hub Co., Ltd	174	4,193	87	4,204
SK Gas International Pte. Ltd.	-	-	-	187
SK Chemicals Co., Ltd.	18,525	8,713	21,645	12,730
SK D&D Co., Ltd.	980	1,839	24	2,288
SK PETROCHEMICAL CO., LTD.	12,707	201	7,881	1,016
SK SECURITIES CO., LTD.	2,737	160	3,180	85
Others	122,376	36,441	51,052	61,865
	<u>₩ 1,086,399</u>	<u>₩ 665,431</u>	<u>₩ 758,011</u>	<u>₩ 397,016</u>

(\*1) The Company recognized bad debt expense amounting to ₩129,216 million and ₩181,930 million for the year ended December 31, 2016 and 2015, respectively. The Company recognized the allowance for doubtful accounts amounting to ₩310,641 million and ₩180,098 million as at December 31, 2016 and 2015, respectively.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**28. Transactions with related parties (cont'd)**

(3) Details of significant treasury transactions with related-parties for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

Company name	December 31, 2016		December 31, 2015	
	Loans	Collection	Loans	Collection
Yemen LNG Company Ltd.	₩ 11,780	₩ -	₩ 39	₩ -
Korea Consortium Kazakh B.V.	-	-	2,959	-
SK E&C USA, Inc.	1,354	135	1,201	-
Jurong Aromatics Corporation Pte. Ltd	22,514	-	-	-
Springvale SK Kores Pty. Ltd.	2,654	-	-	-
SK Wyverns Baseball Club Co., Ltd.	-	204	-	204
Xian Tianlong Science and Technology Co., Ltd.	-	-	1,134	-
Wave City Development Co., Ltd.	1,100	2,990	190	-
SKC Haas Display Film Co., Ltd.	4,900	-	-	-

(4) Compensation for key management personnel of the Company.

Benefits for key management consist of registered executives who are responsible for the planning, operation and control of the Company's business activities. Details of compensation for them for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Salaries	₩ 4,610	₩ 1,588
Provision for pension benefits	475	211
	₩ 5,085	₩ 1,799

**29. Discontinued operations**

(1) Details of discontinued operations

SK Innovation Co., Ltd., a subsidiary of the Group, elected to close down non-core business and discontinue Tri-acetyl-cellulose ("TAC") optical materials business to focus on its core business related to oil development and battery. SK Innovation Co., Ltd. is actively looking for a potential buyer of equipment and expects to complete the sale in 2017. SK Innovation Co., Ltd. classified assets of TAC optical material business expected to be sold as assets held for sale and recognized impairment loss for other assets.

SKC Co., Ltd., a subsidiary of the Group, sold its solar business in October, 2016 with the aim of enhancing competitiveness of the fine ceramics business through enhancing its expertise and management efficiency and efficient allocation of company resources.

SK Networks, Co., Ltd., a subsidiary of the Group, elected to close down non-core business and discontinue fashion business and tax-free business to strengthen financial soundness and to secure investment resources. SK Networks Co., Ltd. expects to complete the sale of fashion business and assets available for sale, and clear related assets and liabilities in 2017. SK Networks Co., Ltd. classified assets and liabilities of fashion business and tax-free business expected to be sold as assets and liabilities held for sale and recognized impairment loss considering recoverable amounts.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**29. Discontinued operations (cont'd)**

(2) Income and expenses from discontinued operations

Income and expenses from the discontinued operation for the years ended December 31, 2016 and 2015 are as follows (in millions of Korean won):

For the year ended December 31, 2016				
	TAC business in SK Innovation Co., Ltd.	Solar business in SKC Solmics Co., Ltd	Fashion and tax-free business in SK Networks Co., Ltd.	Total
Revenue	₩ -	₩ 21,848	₩ 584,205	₩ 606,053
Expenses	-	73,754	776,966	850,720
Loss before income tax expense	-	(51,906)	(192,761)	(244,667)
Income tax benefit	-	-	(45,361)	(45,361)
Losses from discontinued operations attributable to	₩ -	₩ (51,906)	₩ (147,400)	₩ (199,306)
Owners of the Company	₩ -	₩ (9,660)	₩ (528)	₩ (10,188)
Non-controlling interests	-	(42,246)	(146,872)	(189,118)

  

For the year ended December 31, 2015				
	TAC business in SK Innovation Co., Ltd.	Solar business in SKC Solmics Co., Ltd	Fashion and tax-free business in SK Networks Co., Ltd.	Total
Revenue	₩ 290	₩ 9,467	₩ 262,563	₩ 272,320
Expenses	144,702	53,623	267,623	465,948
Loss before income tax expense	(144,412)	(44,156)	(5,060)	(193,628)
Income tax benefit	(34,948)	-	(1,520)	(36,468)
Losses from discontinued operations attributable to	₩ (109,464)	₩ (44,156)	₩ (3,540)	₩ (157,160)
Owners of the Company	₩ (36,276)	₩ (8,318)	₩ (1,385)	₩ (45,979)
Non-controlling interests	(73,188)	(35,838)	(2,155)	(111,181)

(3) Details of cash flows relating to discontinued operation for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

For the year ended December 31, 2016				
	TAC business in SK Innovation Co., Ltd.	Solar business in SKC Solmics Co., Ltd	Fashion and tax-free business in SK Networks Co., Ltd.	Total
Cash flows from operating activities	₩ -	(404)	(20,027)	(20,431)
Cash flows from investing activities	-	2,343	(12,856)	(10,513)
Cash flows from financing activities	-	(31,062)	39,627	8,565
Net cash flows from discontinued operation	₩ -	₩ (29,123)	₩ 6,744	₩ (22,379)

  

For the year ended December 31, 2015				
	TAC business in SK Innovation Co., Ltd.	Solar business in SKC Solmics Co., Ltd	Fashion and tax-free business in SK Networks Co., Ltd.	Total
Cash flows from operating activities	(2,942)	2,121	(16,051)	(16,872)
Cash flows from investing activities	(1,330)	(478)	(14,748)	(15,226)
Cash flows from financing activities	-	(7,728)	31,082	23,354
Net cash flows from discontinued operation	₩ (4,272)	₩ (6,085)	₩ 283	₩ (22,379)

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**30. Non-current assets and non-current liabilities classified as held for sale**

Details of non-current assets and non-current liabilities held for sale as at December 31, 2016 are as follows (Korean won in millions):

		December 31, 2016	
		Assets	Liabilities
Subsidiaries	Daiyang SK Networks SAN. VE TIC. Ltd. STI	₩ 898	₩ 698
Associates	Shanxi SK Guolin Hi-Tech Road Material Co., Ltd.	411	-
Business segment	Fashion business segment (*1)	418,900	62,318
Intangible assets	Property, plant and equipment related to TAC business (*2)	22,228	-
and property, plant	Ships (*3)	183,534	-
and equipment	Assets related to tax-free business (*4)	10,139	-
		<u>₩ 636,110</u>	<u>₩ 63,016</u>

(\*1) As SK Networks, Co., Ltd., a subsidiary of the Group, decided to transfer the fashion business during the current reporting period, assets and liabilities held-for-sale are classified as non-current assets and liabilities, and are measured at the lower of their carrying amount and fair value less costs to sell.

(\*2) As SK Innovation Co, Ltd., a subsidiary of the Group, decided to discontinue Tri-acetylOcellulose ("TAC") optical materials business and planned to sell some equipment in 2017. A negotiation with a potential buyer was in progress as at December 31, 2016, and equipment that planned to sell was classified as asset held-for-sale.

(\*3) SK Shipping Co., Ltd., a subsidiary of the Group, decided to sell some of ships used for operation and disposal will be completed by March, 2017. As a result, related assets are classified as held-for-sale assets, and measured ₩183,534 as net fair value by K-IFRS 1105, price agreed upon Contract by ship owners from Greece, China and others, minus transaction costs.

(\*4) SK Networks Co., Ltd., a subsidiary of the Group, decided to discontinue the tax-free business during the current reporting period. The Company classified related inventories and intangible assets including system of duty free shop as non-current assets held-for-sale, and are measured at the lower of their carrying amount and fair value less costs to sell.

**31. Lease**

(1) Assets under finance lease as at December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Property, plant and equipment	₩ 3,850	₩ 6,123

(2) The Group has entered into lease agreements for various purposes, and minimum lease payments of the Group as a lessee as at December 31, 2016 are as follows (Korean won in millions):

	Maturity			Total
	1 year or less	1 year-5 years	More than 5 years	
Finance leases:				
Future minimum lease payments	₩ 1,993	₩ 2,060	₩ -	₩ 4,053
Less: interests paid	246	196	-	442
Present value (*1)	<u>₩ 1,747</u>	<u>₩ 1,864</u>	<u>₩ -</u>	<u>₩ 3,611</u>
Operating leases	₩ 431,109	₩ 705,303	₩ 316,699	₩ 1,453,111

(\*1) Finance lease liabilities are classified as other current and non-current liabilities.



**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**31. Lease (cont'd)**

(3) The Group recorded a finance lease receivables regarding long-term transit contracts, and minimum lease payments of the Group as a lessor as at December 31, 2016 are as follows (Korean won in millions):

	Maturity			Total
	1 year or less	1 year- 5 years	More than 5 years	
Total lease receivables	₩ 84,464	₩ 282,208	₩ -	₩ 366,672
Net lease receivables (*1)	79,896	275,288	-	355,184

(\*1) Finance lease receivables, including the present value of unguaranteed residual value amounting to ₩81,594 million, are classified as other current and other non-current assets.

**32. Cash flow information**

(1) Details of non-cash adjustments for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Provision for pension benefits	₩ 313,204	₩ 163,114
Depreciation	4,052,087	1,713,227
Amortization	1,161,118	487,036
Loss on impairment of property, plant and equipment, and intangible assets	659,428	148,592
Bad debt expenses	255,058	469,127
Valuation loss (gain) on inventories	(46,032)	26,477
Interest expenses	804,937	362,791
Loss on foreign currency translation	411,020	402,333
Loss on transactions of derivatives	589,218	430,134
Loss on valuation of derivatives	168,110	-
Loss on disposal of available-for-sale financial assets	21,476	93,147
Loss on impairment of available-for-sale financial assets	32,603	79,862
Loss on disposal of investments in associates and joint ventures	10,953	380,996
Loss on impairment of investments in associates and joint ventures	216,385	17,551
Loss on disposal of investments in subsidiaries	14,124	9,144
Loss on disposal of property, plant and equipment	96,087	54,751
Loss on disposal of intangible assets	16,957	3,045
Income tax expense	1,308,668	545,177
Loss related to investments in associates and joint ventures	(719,338)	(664,905)
Interest income	(202,376)	(80,406)
Dividends income	(39,859)	(28,311)
Gain on foreign currency translation	(340,683)	(428,708)
Gain on valuation of derivatives	(484,967)	(346,685)
Gain on transactions of derivatives	(142,722)	(166,846)
Gain on disposal of available-for-sale financial assets	(96,936)	(20,403)
Gain on disposal of investments in associates and joint ventures	(5,475)	(36,544)
Gain on disposal of investments in subsidiaries	(44,448)	(419,772)
Gain on disposal of property, plant and equipment	(21,150)	(30,030)
Gain on disposal of intangible assets	(3,860)	(682)
Gain on bargain purchase	-	(4,992,585)
Others	161,516	188,847
	₩ 8,145,103	₩ (1,640,526)

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**32. Cash flow information (cont'd)**

(2) Details of working capital adjustments for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Inventories	₩ (329,495)	1,420,686
Trade accounts receivable	(267,495)	983,158
Other accounts receivable	(32,831)	267,256
Trade accounts payable	1,196,241	(657,269)
Advance received	(223,403)	(209,952)
Other accounts payable	286,524	65,881
Defined benefit obligation	(201,037)	(83,188)
Plan assets	(255,965)	(179,700)
Others	(42,186)	(103,240)
	₩ 130,353	₩ 1,503,632

(3) Significant non-cash transactions for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Issuance of ordinary shares from business combination	₩ -	₩ 5,611,216
Increase in other accounts payable due to acquisition of property, plant and equipment and others	1,535,106	337,072
Acquisitions of available-for-sale financial assets	-	90,800
Reclassification of property, plant and equipment and others to assets held-for-sale	704,493	-
Reclassification of advance payments to investments in associates	58,860	-

**33. Commitments and contingencies**

(1) Guarantees provided for the Group as at December 31, 2016 are as follows (Korean won in millions and foreign currencies in thousands):

Guarantee	Guarantor	Currency	Amount	Description of guarantee	
SK Holdings Co., Ltd.	Korea Trade Insurance Corporation	USD	6,587	Guarantee of payment	
	The Export-Import Bank of Korea	VND	90,113,661	Guarantee of payment	
	Korea Software Financial Cooperative	USD	2,659	Performance guarantees for contract and others	
	Seoul Guarantee Insurance	KRW	355,006	Performance guarantees for contract and others	
SK Engineering & Construction Co., Ltd.	HSBC and others	KRW	1,943	Performance guarantees for contract and others	
		USD	782,562	Performance guarantees for overseas construction	
		EUR	7,500	Performance guarantees for overseas construction	
		SGD	59,415	Performance guarantees for overseas construction	
		INR	389,600	Performance guarantees for overseas construction	
		AED	24,899	Performance guarantees for overseas construction	
		KWD	144,213	Performance guarantees for overseas construction	
		QAR	556,196	Performance guarantees for overseas construction	
		TRY	8,649	Performance guarantees for overseas construction	
		SAR	494,343	Performance guarantees for overseas construction	
		THB	773,913	Performance guarantees for overseas construction	
		CAD	50,000	Performance guarantees for overseas construction	
		KZT	92,508	Performance guarantees for overseas construction	
		IQD	2,600,000	Performance guarantees for overseas construction	
		IDR	902,925	Performance guarantees for overseas construction	
		KEB Hana Bank	USD	173,670	Performance guarantees for overseas construction
			VND	253,962,932	Performance guarantees for overseas construction
			KRW	9,833	Performance guarantees for domestic construction
		Shinhan Bank	USD	64,755	Performance guarantees for overseas construction
		The Export-Import Bank of Korea	USD	445,851	Performance guarantees for overseas construction
		SAR	372,321	Performance guarantees for overseas construction	
	Korea Housing Guarantee Co., Ltd.	KRW	1,529,009	Housing guarantees and others	
	Seoul Guarantee Insurance	KRW	368,463	Performance guarantees for domestic construction	
	Engineering Financial Cooperative	KRW	1,195,372	Performance guarantees for domestic construction	
	Construction Guarantee Cooperative	KRW	2,269,372	Performance guarantees for domestic construction	

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**33. Commitments and contingencies (cont'd)**

Guarantee	Guarantor	Currency	Amount	Description of guarantee
SK Forest Co., Ltd.	Construction Guarantee Cooperative	KRW	19,528	Performance guarantees for contract and others
	Seoul Guarantee Insurance	KRW	8,389	Performance guarantees for contract and others
Iberian Lube Base Oils S.A.	REPSOL Petroleo	EUR	30,000	Guarantee of debt
		EUR	744	Performance guarantees for license fee
		EUR	12,000	Guarantee of debt
SK Shipping Co., Ltd.	Seoul Guarantee Insurance	KRW	31,506	Performance guarantees for contract
	Bank of America	USD	817	Stand by L/C
KSF 34 International S.A.	The Export-Import Bank of Korea	USD	46,242	Performance guarantees for shipbuilding
SHIKC 1 SHIPHOLDING S.A.	The Export-Import Bank of Korea	USD	156,075	Performance guarantees for shipbuilding
SHIKC 2 SHIPHOLDING S.A.	The Export-Import Bank of Korea	USD	156,075	Performance guarantees for shipbuilding
VLGC 4 SHIPHOLDING S.A.	The Export-Import Bank of Korea	USD	30,594	Performance guarantees for shipbuilding
VLGC 5 SHIPHOLDING S.A.	The Export-Import Bank of Korea	USD	30,594	Performance guarantees for shipbuilding
SK B&T PTE. LTD.	KEB Hana Bank	USD	1,000	Guarantee for acquiring the license
HHIENS 1 SHIPHOLDING S.A.	KEB Hana Bank	USD	142,958	Performance guarantees for shipbuilding
HHIENS 2 SHIPHOLDING S.A.	The Export-Import Bank of Korea	USD	142,958	Performance guarantees for shipbuilding
Yeongnam energy service Co., Ltd.	Seoul Guarantee Insurance	KRW	1,052	Guarantee of warranties and approval
Chonnam energy service Co., Ltd.	Seoul Guarantee Insurance	KRW	4,950	Guarantee of contract defect and price of gas
Pusan City Gas Co., Ltd.	Seoul Guarantee Insurance	KRW	1,109	Community energy service facility management, consignment operating agreement and others
Jeonbuk Energy Service Co., Ltd.	Seoul Guarantee Insurance	KRW	31	Performance guarantees and guarantee of warranties
Chungcheong energy service Co., Ltd.	Seoul Guarantee Insurance	KRW	809	Guarantee of warranties
Ko-one energy service Co., Ltd.	Seoul Guarantee Insurance	KRW	508	Performance guarantees for contract
Paju energy service (formerly, PMP Co., Ltd.)	Seoul Guarantee Insurance	KRW	558	Deposits for safety management and others
Narae energy service Co., Ltd.	Seoul Guarantee Insurance	KRW	67	Guarantees for contract
Wirye energy service Co., Ltd.	Seoul Guarantee Insurance	KRW	1,073	Deposits for safety management and others
SK Telesys. Co., Ltd.	Seoul Guarantee Insurance	KRW	3,980	Guarantee of warranties and contract
SKC INFRA SERVICE Co., Ltd.	Seoul Guarantee Insurance	KRW	9,167	Guarantee of warranties and contract
SK Airgas Co., Ltd.	Taiyo Nippon Sanso Corporation	KRW	10,000	Guarantee of debt
SK Networks Co., Ltd.	KEB Hana Bank	USD	1,000	Payment guarantee of overseas procurement
	KEB Hana Bank, Woori Bank	KRW	10,229	Performance guarantees for sales
SK Networks Service Co., Ltd. and others	Seoul Guarantee Insurance	KRW	7,854	Guarantee of warranties and others
SK Networks Resources Australia Pty. Ltd.	KEB Hana Bank	USD	701	Guarantee of payment of debt and others
SK Magic Co., Ltd.	Seoul Guarantee Insurance	KRW	6,962	Performance guarantees for contract
	Machinery Financial Cooperative	KRW	7,482	Performance guarantees for contract
SK Magic Service Co., Ltd.	Seoul Guarantee Insurance	KRW	360	Performance guarantees for contract
SK Telink Co., Ltd.	KB Insurance Co., Ltd.	KRW	3,585	Performance guarantees for contract
	Seoul Guarantee Insurance	KRW	13,502	Performance guarantees for contract
SK Communications Co., Ltd.	Seoul Guarantee Insurance	KRW	1,008	Guarantee of bonds provisional deposit and others
SK Planet Co., Ltd.	Seoul Guarantee Insurance	KRW	16,652	Guarantee for E-commerce and others
	KEB Hana Bank	KRW	2,883	Performance guarantees for contract and others
SK Broadband Co., Ltd.	Kookmin Bank and others	KRW	20,889	Guarantee of warranties, contract and others
SK M & SERVICE Co., Ltd. (formerly M & SERVICE Co., Ltd.)	Seoul Guarantee Insurance and others	KRW	2,686	Guarantee of payment and others
PS&Marketing Corp.	Seoul Guarantee Insurance	KRW	332	Performance guarantees
	Shinhan Bank	KRW	2,000	Performance guarantees for contract
Service Top Co., Ltd.	Seoul Guarantee Insurance	KRW	1,020	Performance guarantees for sales
iriver Co., Ltd.	Seoul Guarantee Insurance	KRW	116	Performance guarantees for contract and others
SK techx Co., Ltd.	Seoul Guarantee Insurance	KRW	35	Performance guarantees for contract
SK Infosec Co., Ltd.	Korea Software Financial Cooperative	KRW	34,229	Guarantee of bid payment
SK ENCARSALLES.COM., Ltd.	Seoul Guarantee Insurance	KRW	65	Performance guarantees for contract
HAPPYNARAE Co., Ltd.	Seoul Guarantee Insurance	KRW	3,251	Performance guarantees insurance
Neosnetworks Co., Ltd.	Seoul Guarantee Insurance	KRW	2,742	Performance guarantees for contract

In addition, SK Engineering & Construction Co., Ltd., a subsidiary of the Company, has been provided performance guarantees for domestic construction by other construction companies amounting to ₩419,364 million as at December 31, 2016.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**33. Commitments and contingencies (cont'd)**

(2) Guarantees provided to others as at December 31, 2016 are as follows (Korean won in millions and foreign currencies in thousands):

Guarantee	Guarantor	Currency	Amount	Description of guarantee	
SK Engineering & Construction Co., Ltd.	SBC General Trading & Contracting Co. WLL	KWD	3,300	Performance guarantees for contract and others	
	Eurasia Tunnel	USD	3,791	Performance guarantees for contract	
	Pohang Clean Water Co., Ltd. and others	KRW	47,700	Guarantee of payment	
	Sonngdo D&C L.L.C	KRW	19,500	Guarantees for project financing	
	Hwaseong Jeongnam Industrial Tower Planning Co., Ltd.	KRW	10,400	Guarantees for project financing	
	Wangsimni Area III housing redevelopment maintenance business association	KRW	12,350	Guarantees for project financing	
	Daeyeon Area VII housing redevelopment maintenance business association	KRW	124,244	Guarantees for reconstruction project financing	
	Shingil Area V Reconstruction maintenance business association	KRW	77,447	Guarantees for reconstruction project financing	
	Ung-am Area X housing redevelopment maintenance business association	KRW	287,095	Guarantees for reconstruction project financing	
	Ahyeon Area housing redevelopment maintenance business association	KRW	56,817	Guarantees for reconstruction project financing	
	Bomun area II housing redevelopment maintenance business association	KRW	25,327	Guarantees for reconstruction project financing	
	Howon elementary school Area reconstruction maintenance business association	KRW	11,230	Guarantees for reconstruction project financing	
	Ansan Gunja Jugong Area VI reconstruction maintenance business association	KRW	22,207	Guarantees for reconstruction project financing	
	Customers of Seongsoo station SKV1 TOWER	KRW	13,524	Guarantees for reconstruction project financing	
	Customers of Centum River SK View	KRW	31,574	Guarantee of payment	
	Customers of Moonjeong SKV1GL Metrocity	KRW	613	Guarantee of payment	
	Customers of Ga San SK V1	KRW	98,640	Guarantee of payment	
	Customers of Kwang Kyo SK view Lake	KRW	47,844	Guarantee of payment	
	Member of Employee stock ownership association	KRW	34,551	Guarantee of payment	
	Sin Dongtan SK view III and others	KRW	11,396	Guarantee of payment	
	SK Shipping Co., Ltd.	Milestone LNG Transport S.A. & Great Shale LNGTransport S.A. S&Y Shipping S.A.	KRW	-	Conditional performance guarantees for debt
			KRW	200,935	Guarantee for shipbuilding and others
	SK Networks Co., Ltd.	PT. SK Networks Indonesia	KRW	47,396	Guarantee of payment
SK Innovation Co., Ltd.	Peru LNG S.R.L.	USD	1,500	Standing surety for investee	
	Perupetro and others	USD	175,200	Guarantee of supplies and others	
SK Global Chemical Co., Ltd.	SABIC SK Nexlene Company Pte. Ltd.	USD	1,080	Guarantee of performance and others	
Iberian Lube Base Oils S.A.	Cartagena city	EUR	196,500	Guarantee of payment	
	Puertos del Estado	EUR	2,478	Guarantee related to the refund of license fee	
	Railway Administration and others	EUR	355	Guarantees for construction	
SK E&S Co., Ltd.	Boryeong LNG Terminal Co., Ltd.	EUR	37	Guarantee for installing facilities and others	
		KRW	360,000	Guarantee of payment	
		KRW	-	Guarantees for project financing	
SKC Co., Ltd.	SKC-KOLON PI Co., Ltd.	USD	8,100	Guarantee for litigation	
SK M & SERVICE Co., Ltd. (formerly M & SERVICE Co., Ltd)	Yeohaeng Changjo Co., Ltd. and others	KRW	5,618	Guarantee of performance and others	
SK Telink Co., Ltd.	Mobile phone agencies and others	KRW	234	Performance guarantees for contract	

In addition, SK Engineering & Construction Co., Ltd., a subsidiary of the Company, provides other construction companies with performance guarantees for domestic construction in the amount of ₩2,899,240 million as at December 31, 2016.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**33. Commitments and contingencies (cont'd)**

(3) Pending litigations

The Group's significant pending litigations as at December 31, 2016, in which the Group is a plaintiff are as follows (Korean won in millions and foreign currencies in thousands):

Plaintiff	Defendant	Description	Claim	Status
SK Holdings Co., Ltd.	Samsung Card Co., Ltd.	Claim for payment	KRW 5,564	Second trial in progress
SK Forest Co., Ltd.	Seoul Special City and others	Claim for refund of payment	KRW 1,108	First trial in progress
SK ENCARSALES.COM., Ltd.	Individual and others	Claim for payment of trademark right infringement	KRW 150	First trial in progress
SK Incheon Petrochem Co., Ltd.	Seogu-office of Incheon Metropolitan City	Lawsuit for cancellation of amount borne by causers	KRW 10,498	Third trial in progress
SK Trading International Co., Ltd.	OW Bunker Middle East DMCC	Claim for payment	USD 37,117	First trial in progress and others
SK Telesys Co., Ltd.	Alcatel-lucent Korea and others	Claim for payment and others	KRW 1,017	Third trial in progress and others
SK E&S Co., Ltd.	Jongno District Tax Office and others	Claim for annulment of assessments of corporate tax	KRW 2,472	Third trial in progress and others
Ko-one Energy Service Co., Ltd.	IBK	Claim for trust and others	KRW 10,000	Second trial in progress
SK Networks Co., Ltd. and others	GCK Co., Ltd.	Claim for return of money collected	KRW 1,267	First trial in progress
	Individual and others	Claim for repayment and others	KRW 632	First trial in progress and others
SK Networks Service Co., Ltd.	Individual and others	Claim for payment	KRW 744	First trial in progress and others
SK Shipping Co., Ltd.	Emirate Trading Agency	Claim for termination of the contract	USD 8,000	Arbitration in progress
	Asia Green Energy and others	Litigation related to bunkering and others	USD 1,588	Arbitration in progress
	Mcoil International S.A.	Claim for non-payment for fuel oil	KRW 704	First trial in progress
SK Shipping (Singapore) Pte. Ltd.	STShipping and others	Claim for payment and others	USD 3,260	First trial in progress and others
SK Shipping Europe Plc.	MOL	Lawsuit for employment	USD 175	Arbitration in progress
SK B&T Pte. Ltd.	Mumbai Singapore Pte. Ltd.	Off hire claim and others	USD 1,600	First trial in progress
PS&Marketing Corp.	Individual and others	Claim for provisional attachment and others	KRW 509	First trial in progress and others
SK Engineering & Construction Co., Ltd.	K-Water Resources Corporation	Claim for payment	KRW 3,965	Second trial in progress
	Korea Railroad Corporation	Litigation for affirmation of non-existence of debt	KRW 4,140	Second trial in progress
	Korea Rail Network Authority	Claim for payment	KRW 2,358	Third trial in progress
	Fair Trade Committee	Claim for corrective order	KRW 8,765	Third trial in progress and others
	Korea Hydro & Nuclear Power Co., Ltd.	Claim for payment	KRW 265,252	First trial in progress and others
	Korea Specialty Contractor Financial Cooperative	Claim for payment	KRW 405	First trial in progress
	Dream Hub PFV	Claim for payment	KRW 11,087	First trial in progress
	Korea Land and Housing Corporation	Claim for debt absence	KRW 13,712	Second trial in progress
	Hanyang Co., Ltd.	Claim for payment	KRW 215	First trial in progress
	Myungsin Construction Co., Ltd. and others	Claim for payment	KRW 824	First trial in progress
	Busan Metropolitan City	Claim for payment of construction	KRW 402	First trial in progress
	Hyundai Construction Co., Ltd.	Claim for payment	KRW 25,708	First trial in progress
	Korea Housing & Urban Guarantee Corporation	Claim for transfer of ownership right	KRW 2,084	Second trial in progress
	Republic of Korea	Claim for surtax cancellation of Oryukdo SKVIEW	KRW 31,035	First trial in progress and others
	Individual and others	Claim for payment and others	KRW 8,632	Second trial in progress and others

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**33. Commitments and contingencies (cont'd)**

The Group's significant pending litigations as at December 31, 2016, in which the Group is a defendant are as follows (Korean won in millions and foreign currencies in thousands):

Plaintiff	Defendant	Description	Claim	Status
Defense Acquisition Program Administration	SK Holdings Co., Ltd.	Claim for damages	USD 19,673	First trial in progress
Samsung Card Co., Ltd. Individuals and others		Claim for damages	KRW 2,831	Second trial in progress
		Claim for suspension of goods usage and others	KRW 77	First trial in progress
YE EUN TECH Co., Ltd.	SK Telesys Co., Ltd.	Claim for damages	KRW 200	First trial in progress
Alcatel lucent Korea Co., Ltd. and others		Claim for damages and others	KRW 1,326	Second trial in progress and others
Individuals and others	SKC Co., Ltd.	Claim for damages and others	KRW 628	First trial in progress and others
Hyung Koo, Lee and six others	Paju energy service Co., Ltd. (formerly, PMP Co., Ltd.)	Claim for damages	KRW 340	First trial in progress
Korea Land & Housing Corporation and others	Ko-one Energy Service Co., Ltd.	Claim for pipeline removing expenses	KRW 337	First trial in progress
Korea Veterans Health Service Smartro Co., Ltd. and others	Pusan City Gas Co., Ltd.	Claim for return of payment	KRW 3,248	First trial in progress
	SK Networks Co., Ltd and others	Claim for patent infringement and others	KRW 793	First trial in progress and others
N Communcation Inc. and others	SK Networks Service Co., Ltd.	Claim for violation of delivery obligation	KRW 1,095	First trial in progress and others
Individual and others	SK Magic Service Co., Ltd.	Claim for workers' status and others	KRW 6,255	First trial in progress and others
Individual and others	SK Communications Co., Ltd.	Claim for compensation of personal data spill and others	KRW 1,064	Second trial in progress and others
Mac Telecom Co., Ltd. and others	SK Broadband Co., Ltd.	Claim for counterindemnity and others	KRW 3,917	Second trial in progress and others
M Seven System Limited	iriver Co., Ltd.	Claim for damages due to non-fulfillment of obligation and illegal act	KRW 1,000	Second trial in progress
Foxcom Co., Ltd. Individual and others	Neos Networks Co., Ltd. PS&Marketing Corp.	Claim for counterindemnity	KRW 40	First trial in progress
		Litigation for affirmation of non-existence of debt and others	KRW 857	First trial in progress and others
Allianz	SK Shipping Co., Ltd.	Claim for cargo damage	CAD 966	Second trial in progress
Hyundai Merchant Marine Co., Ltd. and others		Claim for cargo damage and others	USD 3,156	Arbitration in progress and others
Classic Maritime	SK Shipping Europe Plc	Claim for payment	USD 5,000	Arbitration in progress
SK Gas International Pte. Ltd. and others	SK Shipping (Singapore) Pte. Ltd.	Claim for cargo damage and others	USD 3,100	Arbitration in progress and others
Korea credit Guarantee fund and others	SK B&T Pte. Ltd.	Claim for cancellation of creditor	USD 840	Second trial in progress and others
Suwon Gwonseon Housing reconstruction business association	SK Engineering & Construction Co., Ltd.	Claim for compensation	KRW 2,546	Second trial in progress
K-Water Resources Corporation		Claim for damages	KRW 5,004	First trial in progress
Incheon Metropolitan City		Claim for return and others	KRW 37,746	First trial in progress and others
Keo-soo, Kim and 56 others		Claim for compensation	KRW 24,049	Second trial in progress
Inlux and others		Claim for compensation	KRW 1,718	Second trial in progress
Hee sung, Jung and 456 others		Claim for apartment	KRW 64,024	Third trial in progress
Samjung Construction Co., Ltd.		Claim for payment	KRW 8,966	First trial in progress
Hyundai Engineering & Construction Co., Ltd.		Claim for payment	KRW 9,133	First trial in progress
Suseong SK Leader's View Tower's resident		Claim for apartment	KRW 201	First trial in progress
Korea Rural Community Corporation		Claim for counterindemnity	KRW 1,861	First trial in progress
Republic of Korea		Claim for compensation	KRW 26,676	First trial in progress
Korea Gas Corporation		Claim for compensation and others	KRW 108,288	First trial in progress
Korea Rail Network Authority		Claim for compensation and others	KRW 23,258	First trial in progress
Seil Engineering Co., Ltd. Individual and others		Claim for compensation	KRW 1,104	First trial in progress
		Claim for apartment and others	KRW 46,856	First trial in progress and others

**33. Commitments and contingencies (cont'd)**

(4) Commitments

- 1) In accordance with the Commercial Code of the Republic of Korea, the Company, SK Innovation Co., Ltd., SK Energy Co., Ltd., SK Global Chemical Co., Ltd., SK Lubricants Co., Ltd., SK Incheon Petrochem Co., Ltd. and SK Trading International Co., Ltd. are collectively responsible for any obligations of the Company arising before the spin-off.

The Company and SK Biopharmaceuticals Co., Ltd. are collectively responsible for any obligations of the Company that occurred before the spin-off on April 1, 2011.

- 2) The Company entered into a contract to lease the headquarters building from National Agricultural Cooperative Federation ("NACF"), the trustee of Hana Daol Fund Management. Under the terms of the lease, the lease period is until March 28, 2021, and the Company has the preemptive right to purchase the building at the fair value when the lessor elects to dispose the property.
- 3) The Company holds IT outsourcing and IT system maintenance agreements to provide hardware and information systems maintenance and development service entered into between the Company and SK Group companies and others.
- 4) The Company entered into a contract with Gyeonggi province on May 31, 2011 to purchase land located in Pangyo Land Development District. The total agreement amount is ₩82,964 million (the Company's portion: ₩45,536 million (54.9%)), which will be used for the construction of urban infrastructure facilities ("designated purpose" of the land). The contract includes requirements to be complied with and restrictions in transfer of ownership of the land. Should there be non-compliance, the contract may be terminated or cancelled.
- 5) HPEIK V SGPS LDA participated in new share issue of SK Shipping Co., Ltd. in the amount of 21,132,075 shares (issue price per share: ₩5,300) during 2010, under the condition that it can exercise a put option when certain defined events occur. The issued and outstanding shares of the entity were acquired by D&D Strategic Growth Ltd. (88.75%) and Daewoo Securities (Hong Kong) Ltd. (11.25%) in 2014. D&D Growth Strategy Limited and others has sent Exercise Notice as at December 15, 2016, to SK Shipping Co., Ltd., the first obligor of this put option. However, SK Shipping Co., Ltd. has not sent Acceptance Notice within Acceptance Period. Meanwhile, D&D Growth Strategy Limited has sent Exercise Notice as at February 14, 2017 to SK Holdings Co., Ltd, the second obligor of this put option.

Details of the put option that the Group entered into are as below.

Classification	Description
Exercise condition	SK Shipping Co., Ltd. is not listed on the share market within six years after the paid-in capital increase, and others
Exercise price	Investment amount, plus compound annual interest of 6%
Obligator	Primary: SK Shipping Co., Ltd., Secondary: SK Holdings Co., Ltd.

As at December 31, 2015, the present value of this put option (₩158,563 million) is included in long-term borrowings (See Note 15).

- 6) SK Networks Co., Ltd., one of the subsidiaries, has committed that if the manganese development in relation to the development of the complex mine in Boleo, Mexico fails, Korean Boleo Corporation, S.A.de C.V. ("KBC") receives USD10,000 thousand (USD1,667 thousand for SK Networks Co., Ltd.) for acquiring shares from Camrova Resources Inc. (formerly, Baja Mining Corp., "Camrova"), and if the manganese development is successful, KBC pays USD 13,000 thousand (USD 2,167 thousand for SK Networks Co., Ltd.) additionally for acquiring shares to Camrova.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**33. Commitments and contingencies (cont'd)**

7) SK E&S LNG, L.L.C, one of the subsidiaries, is scheduled to be provided with liquefaction service amounting to 115 million MMBtu per year for 20 years from FLNG Liquefaction 3, L.L.C, which plans to operate natural gas liquefaction plants in Texas starting from 2019. As at December 31, 2016, SK E&S Co., Ltd., one of the subsidiaries, is responsible for performance guarantee in case of SK E&S LNG, L.L.C's inability to make payments for service or for claims against breach of obligation. In regard to this, the Company provides performance guarantee for SK E&S Co., Ltd.'s guarantee.

8) As at December 31, 2016, details of contracts about subsidiaries of SK E&S Co., Ltd. are as follows:

Description of contract	Name of subsidiaries	Contract opponent	Term of contract
Contract for the supply of natural gas (*1)	Kangwon City Gas Co., Ltd. and seven others	Korea Gas Corporation	-
Contract of supply for natural gas	SK E&S Co., Ltd.	Tanggung PSC Contractor Parties	2006.01~2025.12
Contract for the repair and maintenance of gas turbine	SK E&S Co., Ltd.	GE International Inc.	2004.06~2026.12 (estimated)
Contract for the storage and vaporization service of natural gas	SK E&S Co., Ltd.	POSCO Co., Ltd.	2005.06~2025.12
Rental contract of the plant and tower site	SK E&S Co., Ltd.	POSCO Co., Ltd.	2003.08~2028.12
Contract for work on heat peak load boiler	Wirye energy service Co., Ltd.	Korea District Heating Corp.	Until completion of supply and demand
Contract for the owner's engineering service	Paju energy service Co., Ltd. (formerly, PMP Co., Ltd.)	Black&Veatch Corporation	2014.07~2017.05
Contract for the long term maintenance program	Paju energy service Co., Ltd. (formerly, PMP Co., Ltd.)	Siemens Co., Ltd.	2014.06~2031.06 (estimated)
Contract for the long term maintenance program	Wirye energy service Co., Ltd.	Siemens Co., Ltd.	2014.06~2031.06 (estimated)
Contract for the long term maintenance program	Narae energy service Co., Ltd.	Doosan Heavy Industries & Construction Co., Ltd.	from 2012, 12 years
Contract for the liquefaction and storage of natural gas	SK E&S LNG, L.L.C	FLNG Liquefaction 3, L.L.C	from 2019, 20 years
Contract for the storage and vaporization service of natural gas	Wirye energy service Co., Ltd. and Paju energy service Co., Ltd. (formerly, PMP Co., Ltd.)	Boryeong LNG Terminal	from 2017, 20 years
Contract for the use pipeline of natural gas	SK E&S LNG, L.L.C	Kinder Morgan, Inc.	from 2019, 20 years
Contract of supply for natural gas	SK LNG Trading Pte. Ltd.	Chevron Australia Pty Ltd. and others	2017.01~2022.03

(\*1) Supply quantity is determined annually, and a supply price is authorized by the Ministry of Trade, Industry and Energy.

9) As at December 31, 2016, details of construction contracts about subsidiaries of SK E&S Co., Ltd. are as follows (Korean won in millions):

Description of contract	Name of subsidiaries	Contract opponent	Term of contract	Contract
Contract for the supervisory service	Wirye energy service Co., Ltd.	OSUN Engineering Co., Ltd.	2014.12~2017.03	₩ 2,841
Contract for the heating, plumbing construction	Wirye energy service Co., Ltd.	DkeyyoungEnertech Co., Ltd. and others	2016.03~2017.03	2,264
Contract for the transmission access construction	Wirye energy service Co., Ltd.	Korea Electric Power Corporation	2015.08~2018.04	8,472
Contract for the construction of LNG plumbing supplies	Wirye energy service Co., Ltd.	Hanyang ENG Co., Ltd.	2015.07~2017.06	20,760
Contract for the construction management services	Paju energy service Co., Ltd. (formerly, PMP Co., Ltd.)	Humantech Korea Engineering Co., Ltd.	2014.10~2017.04	4,416



**33. Commitments and contingencies (cont'd)**

- 10) As at December 31, 2016, details of material contracts of resource development by the subsidiaries of SK E&S Co., Ltd. are as follows(in thousands of foreign currencies):

Description of contract	Name of subsidiary	Contract opponent	Equity ownership	Contract amount	Executive amount
Barossa-Caldita, Australia	SK E&S Australia Pty. Ltd.	ConocoPhillips Company and others	37.50%	USD 310,000	USD 280,000
Woodford, USA	Dew Blaine Energy, L.L.C	Continental Resources, Inc.	49.90%	USD 360,000	USD 209,032

SK E&S Co., Ltd., a subsidiary, has an obligation to pay for the development costs based on the equity ownership.

- 11) SK E&S Co., Ltd., has disposed both shares and preferential purchase rights of Wuhan Zhongran Investment Company Limited and China Gas-SK E&S HK Co., Ltd., investments in associates of a subsidiary of SK China Gas Holdings Ltd., amounting to CNY 280 million and CNY 54 million, respectively. The related amount has been accounted for ₩37,490 million of gain on investments in associates and ₩9,426 of other income.
- 12) SK Shipping Co., Ltd., one of the subsidiaries, has contracted with CHAMPION SHIPHOLDING S.A. and 63 others for Bare Boat Charter Hire Purchase ("BBCHP") of about 63 boats. Outstanding boat purchase amount as at December 31, 2016 is USD 2,799,878 thousand (Korean won equivalent: ₩3,383,653 million) and is included in long term other accounts payable (See Note 16).
- 13) SK Shipping Co., Ltd., one of the subsidiaries, has leased ships by Time Charter. Total payables of the ship charter amounts to ₩674,077 million as at December 31, 2016.
- 14) SK Shipping Co., Ltd., one of the subsidiaries, has entered into a long-term transportation contract to transport liquefied natural gas, liquefied petroleum gas and coal with Korea Gas Corporation, Korea Southern Power Co., Ltd., Korea East-West Power Co., Ltd. and Korea Midland Power Co., Ltd..
- 15) As at December 31, 2016, SK Shipping Co., Ltd., one of the subsidiaries, has 44,000,000 shares (55%) of SK B&T Pte. Ltd. ("SK B&T") after disposal of 36,000,000 shares (45%) of SK B&T to Atlantic Starr Ltd. Out of 44,000,000 shares, 3,999,999 shares are provided as trust asset under the securities trust agreement (First Beneficiary: Atlantic Starr Ltd. / trustee: Korea Development Bank), and 40,000,001 shares are pledged as collaterals for Atlantic Starr Ltd. as secured party.
- 16) On July 16, 2013, SK Incheon Petrochem Co., Ltd., one of the subsidiaries, issued new preferred shares by third-party allocation method to Shinhan Stonebridge Petro Private Equity Fund ("investor"). In regard to this new issuance of preferred shares, the agreement between SK Innovation and the investor includes the following essential particulars:
- Investors' drag-along right and tag-along right
  - SK Innovation's preemption right for the exercised investors' drag-along right
  - Restriction on disposal of shares under certain conditions

SK Incheon Perochemical Co., Ltd., one of subsidiaries, has an agreement of securitizing ₩300,000 million that SK Incheon Petrochemical Co., Ltd. trusts accounts receivable for SK Energy Co., Ltd., SK Global Chemical, other subsidiaries, to Industrial Bank of Korea and then IPC Limited Company 1, which underwrites the first right to benefit issued by Industrial Bank of Korea, issues securitized commercial paper.

**33. Commitments and contingencies (cont'd)**

- 17) The board of directors of SK Telecom Co., Ltd., a subsidiary of the Group, decided to acquire the voting shares of CJ HelloVision Co., Ltd., held by CJ O SHOPPING Co., Ltd., and entered into a contract to buy or sell shares of CJ O SHOPPING Co., Ltd. at that date. SK Telecom Co., Ltd. plans to acquire 23,234,060 shares of the voting shares of CJ HelloVision Co., Ltd. on April 4, 2016. Approval procedure in government agency related to the acquisition of the voting shares has not been completed, and the last trading date can be modified only if preconditions of the contract including approval of government agency are satisfied. According to the contract of sales of shares, SK Telecom Co., Ltd. will provide put options (Exercise period: for 2 years from 3 years after the last trading date) for a part or all of remaining shares of CJ HelloVision Co., Ltd. held by CJ O Shopping Co., Ltd. on the last trading date, and SK Telecom Co., Ltd. will be given put options (Exercise period: for 5 years after the last trading date). Additionally, the board of directors of SK Broadband Co., Ltd., a subsidiary of SK Telecom Co., Ltd., decided to merge with CJ HelloVision Co., Ltd., and SK Broadband Co., Ltd. entered into contract for merger at that date. Therefore, SK Broadband Co., Ltd., a subsidiary of SK Telecom Co., Ltd., is scheduled to be merged with CJ HelloVision Co., Ltd. on merger registration date, April 4, 2016. The last trading date can be modified only if preconditions of the contract including approval of government agency are satisfied.
- 18) SK Telecom Co., Ltd., a subsidiary of the Group, sells its mobile handsets to customers on an installment payment plan through agents. It enters into transfer agreements with the agents for the receivables of handset's installment payments, under which all the rights and obligations of receivables are transferred to SK Telecom Co., Ltd. Then, SK Telecom Co., Ltd. enters into an asset securitization contract with a special purpose company for the receivables, and accordingly, the balance of the receivables as at the end of the current reporting period is ₩681,466 million which is recorded as other accounts receivable and long-term other accounts receivable.
- 19) In the current reporting period, SK Telecom Co., Ltd. secured a bandwidth bloc in the 2.6 GHz band at the spectrum auction held by Ministry of science, ICT and Future Planning for an amount of ₩1,330,100 million. Upfront payments were paid during the current reporting period and the remaining will be paid annually over the period of 10 years from August 2016. In addition, SK Telecom Co., Ltd. secured again a bandwidth bloc in the 2.1 GHz band for payment of ₩568,500 million to Ministry of science, ICT and Future Planning. Upfront payments were paid during the current reporting period and the remaining will be paid annually over the period of 5 years from December 2016.

(5) Others

As at December 31, 2016, 110 notes (including 104 blank notes) and 50 blank checks are provided to financial institutions as collateral for borrowings.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**34. Pledged assets**

The following assets were pledged as collateral for the Group's borrowings and others as at December 31, 2016 (Korean won in millions and foreign currencies in thousands):

<u>Company</u>	<u>Asset</u>	<u>Currency</u>	<u>Collateralized amount</u>	<u>Provided to</u>	<u>Description</u>
SK Innovation Co., Ltd.	Investments in associates	KRW	314,425	Peru LNG S.R.L. and others	Collateral for project financing
	Investments in associates	KRW	221,196	Yemen LNG Company and others	Collateral for project financing
Netruck Co., Ltd.	Property, plant and equipment	KRW	3,300	Seosan city	Location deposits
SK Incheon Petrochem Co., Ltd.	Property, plant and equipment	KRW	8,907	Shinhan Bank and others	Collateral for borrowing
SK Holdings Co., Ltd.	Property, plant and equipment	KRW	30,000	Korea Development Bank	Collateral for borrowing
			1,700	RCI Financial Service Korea	Guarantee of implementation of the agreement
Seosuwon Development Company	Investment property	KRW	221,000	New West Village and others	Collateral for borrowing
SK Engineering & Construction Co., Ltd.	Available-for-sale financial assets and others	KRW	113,711	SC Bank and others	Collateral for borrowing and others
	Investment property	KRW	86,800	Kookmin Bank and others	Collateral for borrowing
SKC Co., Ltd.	Property, plant and equipment and others	KRW	215,000	Korea Development Bank and others	Collateral for borrowing
	Investment property	KRW	74,104	SKC Haas Display film Pty Ltd.	Leasehold deposits
SK Telesys Co., Ltd.	Property, plant and equipment	KRW	19,500	KDB Capital Corporation and others	Collateral for borrowing
SKC Solmics Co., Ltd.	Property, plant and equipment	KRW	117,500	Industrial Bank of Korea and others	Collateral for borrowing
SK Bioland Co., Ltd. (formerly, Bioland Co., Ltd.)	Property, plant and equipment	KRW	40,500	Korea Development Bank	Collateral for borrowing
SKC, Inc.	Inventories and trade accounts receivable	USD	97,352	Korea Development Bank and others	Collateral for borrowing
	Property, plant and equipment	USD	50,000	SC Bank	Collateral for borrowing
SK Networks Co., Ltd.	Property, plant and equipment and others	KRW	370,284	Korea Development Bank and others	Collateral for sales and others
	Others	KRW	50,400	Kookmin Bank and others	Collateral for borrowing
SK Pinx Co., Ltd.	Property, plant and equipment	KRW	123,500	NH Bank and others	Collateral for borrowing
Shenyang SK Bus Terminal Co., Ltd.	Property, plant and equipment	CNY	137,820	KEB Hana Bank	Collateral for borrowing
SK Networks Hong Kong Ltd.	Others	USD	2	60 West Suites Hotel Ltd.	Leasehold deposits
		USD	69	Cheung Kong Property Holdings Ltd.	Leasehold deposits
SK E&S Co., Ltd.	Investments in joint ventures	KRW	76,270	Woori Bank and others	Collateral for project financing
	Investments in associates	KRW	13,565	PF lenders	Collateral for project financing
	Investments in subsidiaries	KRW	174,883	Korea Development Bank and Woori Bank	Collateral for borrowing
	Investments in subsidiaries	KRW	989,592	Korea Development Bank and others	Collateral for project financing
Kangwon City Gas Co., Ltd.	Property, plant and equipment	KRW	6,607	Korea Development Bank	Collateral for borrowing
Pusan City Gas Co., Ltd.	Investment property	KRW	3,933	Megamart and others	Leasehold deposits
Paju energy service Co., Ltd. (formerly, PMP Co., Ltd.)	Property, plant and equipment	KRW	840,000	Korea Development Bank and others	Collateral for project financing
Chonnam City Gas Co., Ltd.	Property, plant and equipment	KRW	220	Dongbu Insurance Co., Ltd. and others	Leasehold deposits
Wirye energy service Co., Ltd.	Property, plant and equipment	KRW	673,693	Korea Development Bank and others	Collateral for project financing
Narae energy service Co., Ltd.	Property, plant and equipment and others	KRW	480,000	Korea Development Bank and others	Collateral for borrowing
SK Shipping Co., Ltd.	Property, plant and equipment and others	USD	2,025,590	KDB Asia Ltd. and others	Deposits for purchasing ship and others
	Investments in subsidiaries	USD	44,000	Atlanticstar Ltd.	Disposal of shares of SK B&T
SK Shipping (Singapore) Pte. Ltd.	Property, plant and equipment	USD	92,932	KDB Asia Ltd and others	Deposits for purchasing ship and others
KSF 34 International S.A.	Property, plant and equipment	USD	22,396	KDB Asia Ltd and others	Deposits for purchasing ship
SHIKC 1 SHIPHOLDING S.A.	Property, plant and equipment	USD	22,396	KDB Asia Ltd and others	Deposits for purchasing ship
SHIKC 2 SHIPHOLDING S.A.	Property, plant and equipment	USD	147,139	KDB Asia Ltd and others	Deposits for purchasing ship
HHIENS 1 SHIPHOLDING S.A.	Property, plant and equipment	USD	119,981	KDB Asia Ltd and others	Deposits for purchasing ship
HHIENS 2 SHIPHOLDING S.A.	Property, plant and equipment	USD	119,991	KDB Asia Ltd and others	Deposits for purchasing ship
VLGC 4 SHIPHOLDING S.A.	Property, plant and equipment	USD	28,287	KDB Asia Ltd and others	Deposits for purchasing ship
VLGC 5 SHIPHOLDING S.A.	Property, plant and equipment	USD	28,287	KDB Asia Ltd and others	Deposits for purchasing Ship
SK Shipping Europe Plc.	Property, plant and equipment	USD	52,561	KDB Asia Ltd and others	Deposits for purchasing ship
SK Broadband Co., Ltd.	Property, plant and equipment	KRW	6,674	KEB Hana Bank and others	Restricted real rights for office lease
	Short-term financial instruments	KRW	728	KEB Hana bank and NH Bank	Collateral for loan
SKY Property Management Ltd.	Investment property	CNY	150,000	KEB Hana Bank and others	Collateral for borrowing
SK China Company, Ltd.	Others	USD	40,649	Shinhan Bank and others	Collateral for borrowing
SK Industrial Development China Co., Ltd.	Others	CNY	2,000,000	Bank of China Communications	Collateral for borrowing

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**34. Pledged assets (cont'd)**

Company	Asset	Currency	Collateralized amount	Provided to	Description
SK Materials Co., Ltd.	Property, plant and equipment	KRW	27,170	LG Display Co., Ltd.	Collateral for advance received
		KRW	137,000	Korea Development Bank	Collateral for borrowing
		USD	3,500	Korea Development Bank	Collateral for borrowing
		JPY	3,690,000	Korea Development Bank	Collateral for borrowing
		JPY	315,000	Hyakugo Bank	Collateral for borrowing
SK Airgas Co., Ltd.	Property, plant and equipment	TWD	50,000	Mega Bank	Collateral for borrowing
		KRW	128,900	Kyungnam Bank and others	Collateral for borrowing
SK Tri Chem Co.,Ltd	Property, plant and equipment	KRW	3,443	Korea Development Bank	Collateral for borrowing

**35. Guarantees provided among the Group entities**

Guarantees provided among the Group entities as at December 31, 2016 are as follows (Korean won in millions and foreign currencies in thousands):

Guarantor	Guarantee	Currency	Amount	Description of guarantee
SK Holdings Co., Ltd. and SK Innovation Co., Ltd.	SK Shipping Co., Ltd.	USD	-	Charterage (*1)
SK Innovation Co., Ltd.	SK E&P America, Inc.	USD	45,000	Guarantee of debt
SK Global Chemical Co., Ltd.	SK Ningbo Performance Rubber Co., Ltd.	USD	10,418	Guarantee of payment for license agreement
SK Lubricants Co., Ltd.	PT.Patra SK	USD	2,068	Guarantee of lease
	Iberian Lube Base Oils, S.A	EUR	1,735	Guarantee of deposit
		EUR	52,500	Guarantee of debt
SK Global Chemical (China) Holding Co., Ltd.	SK Global Chemical International Trading (Shanghai) Co., Ltd.	CNY	170,000	Guarantee of payment for credit limit acquisition
SK Engineering & Construction Co., Ltd.	Thai Woo Ree Engineering Company Ltd.	USD	586	Guarantee of financial obligation
		THB	76,158	Performance guarantees for contract and others
	Seosuwon Development Company	KRW	221,000	Guarantees for project financing
	SKEC Anadolu L.L.C	USD	39,000	Performance guarantees for contract and others
		KRW	61,200	Guarantee of financial obligation
	Sunlake Co., Ltd.	CAD	33,000	Guarantee of financial obligation
SK Co., Ltd.	SK HOLDCO PTE. LTD.	USD	202	Performance guarantees for contract and others
	SKC, Inc.	USD	165,000	Guarantee of payment
	SKC (Jiangsu) High Tech Plastics Co., Ltd.	USD	87,675	Guarantee of payment
		CNY	180,000	Guarantee of payment
	SK Telesys Co., Ltd.	KRW	40,000	Guarantee of financial obligation
SK Networks Co., Ltd.	SKC Solmics Co., Ltd.	KRW	60,000	Guarantee for operation fund
	SK Networks Deutschland GmbH	EUR	10,000	Standing surety for investee
	SK Networks Hong Kong Limited	USD	169,600	Standing surety for investee
	SK Networks (Shanghai) Co., Ltd.	USD	135,900	Standing surety for investee
		CNY	84,000	Standing surety for investee
	SK Networks Japan Co., Ltd.	JPY	2,000,000	Standing surety for investee
	SK Networks (Xiamen) Steel Processing Center Co., Ltd.	CNY	65,000	Standing surety for investee
SK Shipping Co., Ltd.	SK (Guangzhou) Metal Co., Ltd.	CNY	60,000	Standing surety for investee
	SK Shipping Europe Plc	USD	84,000	Guarantee for operation fund
		USD	59,997	Guarantee for derivative hedge
		JPY	6,131,658	Guarantee of payment
	SK Shipping Singapore Pte. Ltd.	USD	97,999	Guarantee of payment
		USD	96,000	Guarantee for operation fund
	SK Shipping Hongkong Ltd.	USD	2,000	Guarantee for operation fund
	Amber Shipholding S.A.	USD	9,375	Guarantee of payment
	Coral Shipholding International S.A.	USD	9,375	Guarantee of payment
	SK B&T Pte. Ltd.	USD	24,400	Guarantee for operation fund and others
	KSF 34 International S.A.	USD	23,355	Guarantee of payment
	SHIKC 2 SHIPHOLDING S.A.	USD	52,025	Guarantee of payment
	SHIKC 1 SHIPHOLDING S.A.	USD	52,025	Guarantee of payment
	Blueseaocean 1st L.L.C	USD	30,000	Guarantee for derivative hedge
	Blueseaocean 2nd L.L.C	USD	40,000	Guarantee for derivative hedge
	With Ocean L.L.C	KRW	45,000	Securitization. Capital reserve commitments
	HHIENS1 Shipholding S.A.	USD	35,740	Performance guarantees for payment
	HHIENS2 Shipholding S.A.	USD	35,740	Performance guarantees for payment
	VLGC4 Shipholding S.A.	USD	45,891	Performance guarantees for payment
	VLGC5 Shipholding S.A.	USD	45,891	Performance guarantees for payment
	ZH-Bshipholding Group S.A.	USD	7,956	Performance guarantees for payment
	NEPTUNE SOLUTION L.L.C	KRW	80,000	Securitization. Capital reserve commitments
	HHIVLCC1SHIPHOLDINGS.A.	USD	30,875	Performance guarantees for payment
	HHIVLCC2SHIPHOLDINGS.A.	USD	30,875	Performance guarantees for payment
SK B&T Pte. Ltd.	Chuandong 1 Marine Holdings Co., Ltd.	USD	8,599	Guarantee related to BBCHP
	Chuandong 2 Marine Holdings Co., Ltd.	USD	8,484	Guarantee related to BBCHP
SK E&S Co., Ltd.	Callip Gas Marketing, L.L.C	USD	181,000	Guarantee for derivative hedge
	SK E&S Australia Pty. Ltd.	USD	450,000	Payment guarantee for principal and interest of borrowings and others
	Paju energy service Co., Ltd. (formerly, PMP Co., Ltd.)	KRW	530,000	Payment guarantee for principal and interest of bonds payable and others
	Wirye energy service Co., Ltd.	KRW	280,000	Payment guarantee for principal and interest of borrowings and others
	Narae energy service Co., Ltd.	KRW	20,000	Payment guarantee for principal and interest of borrowings
	Dew Blaine Energy, L.L.C	USD	360,000	Performance for contracts
	SK E&S Americas, Inc.	USD	160,000	Payment guarantee for principal and interest of borrowings and others
SK LNG Trading Pte. Ltd.	SK LNG Trading Pte. Ltd.	USD	69,000	Guarantee for derivative hedge and others
	SK Shipping Co., Ltd.	USD	-	Service fee

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**35. Guarantees provided among the Group entities (cont'd)**

Guarantor	Guarantee	Currency	Amount	Description of guarantee
SK Materials Co., Ltd.	SK Materials (Jiangsu) Co., Ltd.	CNY	105,000	Guarantee for borrowings
		USD	33,000	Guarantee for borrowings
	SK Materials Taiwan Co., Ltd.	USD	4,000	Guarantee for borrowings
SK China Company, Ltd.	SK Materials Japan Co., Ltd.	JPY	318,000	Guarantee for borrowings
	SK (Beijing) auto rental Co., Ltd.	USD	20,965	Guarantee for borrowings
	SK (Shenyang) auto rental Co., Ltd.	USD	10,482	Guarantee for borrowings
	SK Rent-A-Car (Qingdao) Co., Ltd.	USD	9,202	Guarantee for borrowings

(\*1) The fair value of the vessels owned by SK Shipping Co., Ltd. is deducted from the total guarantee amount of ₩158,814 million.

**36. Deposits restricted**

Deposits restricted for the use as at December 31, 2016 and 2015 are as follows (Korean won in millions):

Account	Classification	Bank	December 31, 2016	December 31, 2015	Description of restriction
Cash and cash equivalents	Deposits relating to project financing	Korea Development Bank and others	₩ 95,254	₩ 90,351	Pledged on collateral
Short-term financial instruments	Charitable fund and others	Industrial Bank of Korea and others	139,718	142,088	Withdrawal restriction
Long-term financial instruments	Narasarang Trust for Public Benefit and others	KEB Hana Bank and others	15,828	32,537	Withdrawal restriction
Other non-current assets	CO2 emission allowances fund	Samsung Securities and others	3,763	7,838	Deposits and others
			<u>₩ 254,563</u>	<u>₩ 272,814</u>	

**37. Financial risk management**

Regarding financial instruments, the Group is exposed to a variety of financial risks: credit, liquidity and market. This note presents information related to risk exposures of the Group and the main objective, strategy, evaluation of risk, management process and capital management. Additional quantitative information is stated throughout the condensed consolidated financial statements.

**37.1 Financial risk management**

**37.1.1 Risk management activities**

The board of directors has overall responsibility for the establishment and oversight of the Group's risk management framework. The board of directors has established the risk management committee, which is responsible for developing and monitoring the Group's risk management policies. The risk management committee reports regularly to the board of directors on its activities. The Group audit committee is assisted in its oversight role by internal audit. Internal audit undertakes both regular and ad hoc reviews of risk management controls and procedures, the results of which are reported to the Group audit committee.

The Group's risk management policies are established to identify and analyze the risks faced by the Group, to set appropriate risk limits and controls and to monitor risks and adherence to limits. Risk management policies and systems are reviewed regularly to reflect changes in market conditions and the Group's activities. The Group, through its training and management standards and procedures, aims to develop a disciplined and constructive control environment in which all employees understand their roles and obligations.

### 37.1.2 Credit risk

Credit risk is the risk of financial loss of the Group if a customer or counterparty to a financial instrument fails to meet its contractual obligations. In addition, the maximum exposure to credit risk as at December 31, 2016 and 2015 is as follows (Korean won in millions):

	December 31, 2016	December 31, 2015
Financial assets at FVTPL	₩ 104,018	₩ 115,714
Held-to-maturity investments	937	960
Loans and receivables	25,012,808	22,675,267
Available-for-sale financial assets	65,010	51,736
Derivatives designated as hedging instruments	299,173	354,067
	<u>₩ 25,481,946</u>	<u>₩ 23,197,744</u>

On the other hand, the Group has provided payment guarantees for others, including related parties, associates and others. The Group, due to its payment guarantees, is exposed to credit risk (See Note 33).

#### 37.1.2.1 Trade and other accounts receivable

The Group recognizes a provision for losses expected to be incurred for receivables and others. This provision consists of specific impairment losses for individually significant items, and impairment losses have not yet been identified the occurrence of a group of financial assets with similar characteristics. Provision of a group of financial assets has been determined based on historical data for similar collection of financial assets.

The Group enters into transactions only with customers that are credit worthy. Credit quality of a customer is assessed based on an extensive credit rating scored and individual credit limits are defined in accordance with this assessment. Outstanding customer receivables are regularly monitored and credit quality may be adjusted to reflect the appropriate appetite of credit risk in accordance with the Group's risk management policies.

As at December 31, 2016 and 2015, the aging of trade receivables and others for which an allowance for doubtful accounts has not been made, as the allowance is deemed to be recoverable from a customer or counterparty later although the amount is past due, are as follows (Korean won in millions):

	December 31, 2016		December 31, 2015	
	Trade accounts receivable	Other receivables	Trade accounts receivable	Other receivables
Less than one month	₩ 767,403	₩ 69,444	₩ 809,077	₩ 163,249
One–three months	468,566	43,920	347,847	7,377
Three–six months	197,411	27,298	152,961	89,373
More than six months	491,479	246,352	668,977	257,359
	<u>₩ 1,924,859</u>	<u>₩ 387,014</u>	<u>₩ 1,978,862</u>	<u>₩ 517,358</u>

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**37.1.2.1 Trade and other accounts receivable (cont'd)**

Changes in the allowance for doubtful accounts for the years ended December 31, 2016 and 2015 are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Beginning balance	₩ 515,317	₩ 4,084
Bad debt expense	255,058	469,127
Write-off	(86,447)	(162)
Equity loss on investments (*1)	1,327	948
Others (*2)	91,943	41,320
Ending balance	₩ 777,198	₩ 515,317

(\*1) For the years ended December 31, 2016 and 2015, equity method loss amounting to ₩1,327 million and ₩948 million, respectively, was recognized in the related loan, as book value of investment in associates was insufficient.

(\*2) Others include net foreign currency translation differences, changes in the scope of consolidation and others.

**37.1.2.2 Guarantee**

SK Engineering & Construction Co., Ltd., one of the subsidiaries, offers payment guarantees for loans of project financing. The financing liabilities related to the payment guarantees recognized amounts of ₩7,352 million as at December 31, 2016. The Group recognizes the financial guarantee liabilities related to the payment guarantees contracted with the Group, such as SK Engineering & Construction Co., Ltd., as at December 31, 2016.

	December 31, 2016	December 31, 2015
SK Innovation Co., Ltd.	₩ 1,768	₩ 2,199
SK Engineering & Construction Co., Ltd.	7,352	7,917
SK Shipping Co., Ltd.	-	1,960
	₩ 9,120	₩ 12,076

In addition, the Group has provided payment guarantees for others, including subsidiaries and others. The Group, due to its payment guarantees, is exposed to credit risk (See Notes 33 and 35).

**37.1.2.3 Other financial assets**

Credit risk arising from other financial assets consists of long-term and short-term financial instruments, occurrence of trade opponent arising from the bankruptcy, etc. In this case, the credit risk exposure of the Group will be the same as the book value of the maximum applicable financial instruments. On the other hand, the management of the Group's credit rating, because it is excellent to deal with financial institutions, is judged to have limited impact on the credit risk of the financial institutions of the Group.

### 37.1.3 Liquidity risk

Liquidity risk is the risk that the Group encounters difficulty in meeting the obligations of the financial liabilities. The Group's approach to managing liquidity is to ensure, as far as possible, that it will always have sufficient liquidity to meet its liabilities when due, under both normal and stressed conditions, without incurring unacceptable losses or risking damage to the Group's reputation.

The contractual maturity of financial liabilities as at December 31, 2016 is as follows. Amounts include interests paid and presented at gross amounts (Korean won in millions):

	Book value	Contractual cash flow	Less than 3 months	3~12 months	1~5 years	More than 5 years
Loans and borrowings	₩ 7,621,773	₩ 7,855,746	₩ 2,074,693	₩ 1,878,654	₩ 3,408,945	₩ 493,454
Bonds	23,755,427	25,333,969	510,557	4,219,376	15,123,942	5,480,094
Derivative financial liabilities	307,751	307,751	106,924	146,854	53,046	927
Trade accounts payable	8,897,260	8,897,260	8,691,839	205,421	-	-
Other liabilities	10,819,974	11,430,102	4,786,493	1,241,721	2,755,202	2,646,686
	<u>₩ 51,402,185</u>	<u>₩ 53,824,828</u>	<u>₩ 16,170,506</u>	<u>₩ 7,692,026</u>	<u>₩ 21,341,135</u>	<u>₩ 8,621,161</u>

### 37.1.4 Market risk

Market risk is the fluctuating risk in fair value of the financial instruments or future cash flows caused by the changes in market price. Market risk consists of currency risk, interest rate risk, crude oil and petroleum product price risk, and others. The fundamental goal of market price management is the maximization of the profit and the limit of the exposure to market risk within an acceptable level. The Group sells and purchases financial derivatives and financial instruments or financial liabilities for the purpose of controlling the market risk. In general, the Group applies hedge accounting in order to minimize the volatility of profit.

#### 37.1.4.1 Currency risk

The Group is exposed to foreign currency risk arising from sales and purchases denominated in currencies other than functional currency. Main currencies used for these transactions are USD, JPY, CNY and EUR.

Details of foreign currencies and liabilities as at December 31, 2016 and 2015 are as follows (Korean won in millions and foreign currencies in thousands):

	Currency	December 31, 2016		December 31, 2015	
		Foreign currencies	Korean won equivalent	Foreign currencies	Korean won equivalent
Assets	USD	4,921,210	₩ 5,947,476	3,605,232	₩ 4,213,984
	JPY	17,681,164	183,325	22,810,659	221,769
	CNY	2,601,217	450,687	3,630,869	655,981
	EUR	68,757	87,154	98,023	125,535
	Others		35,791		190,833
			<u>₩ 6,704,433</u>		<u>₩ 5,408,102</u>
Liabilities	USD	8,162,297	₩ 9,863,939	7,342,262	₩ 8,544,316
	JPY	7,342,973	76,106	13,395,700	130,183
	CNY	1,306,566	226,378	1,583,031	285,797
	EUR	74,224	94,087	80,395	98,549
	Others		699,236		634,214
			<u>₩ 10,959,746</u>		<u>₩ 9,693,059</u>



### 37.1.4.1 Currency risk (cont'd)

Should the exchange rate of the aforementioned currencies fluctuate by 10%, the effects on equity would be as follows (Korean won in millions):

Currency	December 31, 2016		December 31, 2015	
	Increase by 10%	Decrease by 10%	Increase by 10%	Decrease by 10%
USD	₩ (391,646)	₩ 391,646	₩ (433,033)	₩ 433,033
JPY	10,722	(10,722)	9,159	(9,159)
CNY	22,431	(22,431)	37,018	(37,018)
EUR	(693)	693	2,699	(2,699)

The Group is hedging currency risk by using derivative financial instruments such as currency swaps, currency forwards and others (See Note 20).

### 37.1.4.2 Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Group's exposure to the risk of changes in market interest rates relates primarily to the Group's long-term debt obligations with floating interest rates. As at December 31, 2016, floating-rate bonds and floating-rate borrowings are ₩5,354,429 million (as at December 31, 2015: ₩5,417,564 million). The Group's management has entered into the foreign currency swap and interest rate swap contracts to manage its interest rate risk (See Note 20).

When all other variables are fixed and the interest rates are changed for the years ended December 31, 2016 and 2015, the effects of interest expense by fluctuated interest-bearing loan are as follows (Korean won in millions):

	For the years ended	
	December 31, 2016	December 31, 2015
Interest expenses	100 basis point increase ₩ 53,544	100 basis point increase ₩ 54,176

### 37.1.4.3 Crude oil and petroleum product price risk

Crude oil and petroleum product price risk is the risk that profit or cash flow will fluctuate because of changes in international market prices of crude oil and petroleum products. The Group manages these risks to maintain stable margins through the use of fixed-price contracts with customers and derivative contracts of fluctuations in fair values according to changes in international market prices. Key management of the Group determined that the risk from changes in the price of crude oil and petroleum products and the risk to fluctuations in fair values are approximately managed.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**37.1.5 Enforceable master netting agreement or similar agreement**

Carrying amount of financial instruments recognized for which offset agreements are applicable as at December 31, 2016 and 2015 is as follows (Korean won in millions):

	December 31, 2016					
	Gross financial instruments recognized	Gross offset financial instruments recognized	Net financial instruments presented in the consolidated statement of financial position	Relevant amount not offset in the consolidated statement of financial position		Net amount
				Financial instruments	Cash collaterals received	
Financial assets:						
Derivatives (*1)	₩ 87,566	₩ -	₩ 87,566	₩ (87,153)	₩ -	₩ 413
Trade accounts receivable and other receivables	114,135	(103,852)	10,283	-	-	10,283
	<u>₩ 201,701</u>	<u>₩ (103,852)</u>	<u>₩ 97,849</u>	<u>₩ (87,153)</u>	<u>₩ -</u>	<u>₩ 10,696</u>
Financial liabilities:						
Derivatives (*1)	₩ 87,153	₩ -	₩ 87,153	₩ (87,153)	₩ -	₩ -
Other accounts payable and other liabilities	103,852	(103,852)	-	-	-	-
	<u>₩ 191,005</u>	<u>₩ (103,852)</u>	<u>₩ 87,153</u>	<u>₩ (87,153)</u>	<u>₩ -</u>	<u>₩ -</u>
	December 31, 2015					
	Gross financial instruments recognized	Gross offset financial instruments recognized	Net financial instruments presented in the consolidated statement of financial position	Relevant amount not offset in the consolidated statement of financial position		Net amount
				Financial instruments	Cash collaterals received	
Financial assets:						
Derivatives (*1)	₩ 55,673	₩ -	₩ 55,673	₩ (55,673)	₩ -	₩ -
Trade accounts receivable and other receivables	129,527	(113,003)	16,524	-	-	16,524
	<u>₩ 185,200</u>	<u>₩ (113,003)</u>	<u>₩ 72,197</u>	<u>₩ (55,673)</u>	<u>₩ -</u>	<u>₩ 16,524</u>
Financial liabilities:						
Derivatives (*1)	₩ 89,734	₩ -	₩ 89,734	₩ (55,673)	₩ -	₩ 34,061
Other accounts payable and other liabilities	113,003	(113,003)	-	-	-	-
	<u>₩ 202,737</u>	<u>₩ (113,003)</u>	<u>₩ 89,734</u>	<u>₩ (55,673)</u>	<u>₩ -</u>	<u>₩ 34,061</u>

(\*1) Derivatives are subject to enforceable master netting arrangement in accordance with ISDA (International Swaps and Derivative Association).

**37.2 Capital risk management**

The fundamental goal of capital management is to keep a sound financial structure. The Group is using the debt ratio, calculated as total debt divided by total amount of capital, as an indicator of capital management. The Group maintains a debt ratio of 143.5% as at December 31, 2016. The maturity of the debt is dispersed in the long term; so, debt-repayments are not demanding.

The Group's debt ratio as at December 31, 2016 and 2015 is as follows: (Korean won in millions)

	December 31, 2016		December 31, 2015	
Total liabilities	₩	60,720,613	₩	56,556,559
Total equity		42,326,724		40,077,250
Debt ratio		143.5%		141.1%

## **38. Business combination**

### **38.1 2016**

#### **38.1.1 General information**

As at February 16, 2016, the Company acquired 49.1% of voting shares of SK Materials Co., Ltd (formerly, OCI Materials Co., Ltd.), which primarily engages in the manufacture and sale of special gas (NF<sub>3</sub>, SiH<sub>4</sub>, WF<sub>6</sub>), from OCI Company Ltd. for a consideration of ₩472,866 million. The transaction was carried out for the purpose of developing a new line of business in the special gas market for semiconductor production.

On September 23, 2016, SK TNS Co., Ltd., which is engaged in information and communication technology, redeemed certain redeemable convertible preference shares with voting rights by which SK Engineering & Construction Co., Ltd.'s equity interests of the shares increased from 50.0% to 52.2%.

As at November 28, 2016, SK Networks Co., Ltd., a subsidiary of the Group, acquired 100% of voting shares of SK Magic Co., Ltd. (formerly, TONGYANG MAGIC Inc.), which primarily engages in the manufacture and rent of home appliances, from Magic Holdings Co., Ltd. for a consideration of ₩610,000 million.

In addition, such transaction was accounted for using the acquisition method and the consolidated financial statements comprise financial performance of SK Materials Co., Ltd., SK TNS Co., Ltd., and SK Magic Co., Ltd. for the period from the acquisition date to the end of reporting period.

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**38.1.2 Identifiable assets acquired and liabilities assured**

1) Identifiable assets acquired and liabilities assured due to merger is as follows (Korean won in millions):

	<u>SK Materials Co., Ltd.</u>	<u>SK TNS Co., Ltd.</u>	<u>SK Magic Co., Ltd. (*1)</u>
Current assets:	₩ 197,414	₩ 144,718	₩ 79,998
Cash and cash equivalents	73,056	27	11,512
Trade accounts receivable and other accounts receivable	61,189	49,602	38,934
Inventories	61,650	-	24,432
Other current assets	1,519	95,089	5,120
Non-current assets:	865,528	6,480	591,680
Investments in associates and joint ventures	84	1,424	-
Property, plant and equipment and investment property	510,096	7	254,673
Intangible assets	354,546	3,808	261,429
Trade accounts receivable and other accounts receivable	783	22	-
Deferred income tax assets	-	-	8,913
Other non-current assets	19	1,219	66,665
Current liabilities:	162,187	109,128	114,998
Trade accounts payable and other accounts payable	50,906	90,815	61,018
Bonds payable and short-term borrowings	88,461	-	24,708
Other current liabilities	22,820	18,313	29,272
Non-current liabilities:	215,468	3,323	199,684
Bonds payable and long-term borrowings	114,104	-	106,614
Retirement benefit obligation	5,435	3,323	26,043
Deferred income tax liabilities	75,074	-	65,612
Other non-current liabilities	₩ 20,855	₩ -	₩ 1,415
Fair value of identifiable net assets	<u>₩ 685,287</u>	<u>₩ 38,747</u>	<u>₩ 356,996</u>

(\*1) The amounts of net assets of the acquiree as of December 31, 2016 are measured temporarily as the valuation for some assets has not been completed. The valuation has not been completed by the approval date of financial statements by managements.

### 38.1.2 Identifiable assets acquired and liabilities assured (cont'd)

2) Used valuation techniques for remeasurement at fair value of acquired significant assets and liabilities is as follow:

Acquired Assets	Measurement of fair value
<i>Property, plant and equipment and investment property</i>	Market approach or cost approach: The Company determines the fair value reflecting on the created price in the available market transactions of similar assets or on the replacement cost considering the appropriate functional and economic obsolescence as well as the physical deterioration degree.
<i>Intangible assets</i>	Relief from royalty method or multi-period excess earnings method: The Company determines the fair value of intangible assets by using relief from royalty method considering the royalty discount that is expected to be avoided by the retention of the patents or trademarks directly. And the Company also determines the fair value of intangible by using multi-period excess earnings method considering the present value of net cash flows that is expected to be generated from the customer relationship.
<i>Inventories</i>	The Company determines the fair value on the basis of a reasonable profit based on the effort required to complete or sell inventories and the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.
<i>Bonds payable and borrowings</i>	The Company determines the fair value by discounting future cash flows at an effective interest rate that consider current credit rating at assessment date and spread applied to recently issued.

### 38.1.3 Goodwill

Goodwill arising from business combination is as follows (Korean won in millions):

	SK Materials Co., Ltd.	SK TNS Co., Ltd.	SK Magic Co., Ltd. (*1)
a. The total consideration transferred	₩ 472,866	₩ 165,721	₩ 610,000
b. Fair value of porportionate share of acquired net assets			
Fair value of the net identifiable assets	685,287	38,747	356,996
Non-controlling interests (*1)	(349,086)	(17,142)	-
Subtotal	<u>336,201</u>	<u>21,605</u>	<u>356,996</u>
c. Goodwill (c=a-b)	<u>₩ 136,665</u>	<u>₩ 144,116</u>	<u>₩ 253,004</u>

(\*1) Non-controlling interests occurred due to the merger are measured in proportion to the non-controlling interest in net identifiable assets of the merged company.

As at acquisition date, sales from operations of the acquired entity (SK Materials Co., Ltd., SK TNS Co., Ltd., and SK Magic Co., Ltd.) amounting to ₩605,774 million were included in the Group's consolidated financial statements for the year ended December 31, 2016. If the combination had taken place at the beginning of 2016, the Group's financial information for the year ended December 31, 2016 would have been as follows (Korean won in millions):

	Amount
Sales	₩ 84,375,452
Operating income	5,364,016
Net income	2,849,736

**SK HOLDINGS CO., LTD. and its subsidiaries**  
**Notes to the consolidated financial statements**  
**December 31, 2016 and 2015**

**38.2 2015**

The Company has entered into business combination with SK Holdings Co., Ltd. effective August 1, 2015 through the approval at the board of directors on April 20, 2015 and the resolutions of the general meeting of shareholders on June 26, 2015.

**38.2.1 General information:**

	<u>Details</u>
Existed company after acquisition	SK C&C Co., Ltd.
Name of existed company after acquisition	SK Holdings Co., Ltd.
Extinct company after acquisition	SK Holdings Co., Ltd.
Purpose	Finding a new growth engines and increasing the Company's competitiveness through improving financial structure.
Ratio of acquisition	(1) Ordinary share = 1:0.7367839 (SK C&C Co., Ltd. : SK Holdings Co., Ltd.) (2) Preferred share = 1:1.1102438 (SK C&C Co., Ltd. : SK Holdings Co., Ltd.)

**38.2.2 The consideration transferred**

The fair value of the consideration transferred for merger for the year ended December 31, 2016 is as follows (Korean won in millions):

	<u>Amount</u>
Fair value of ordinary shares for issued	₩ 4,696,941
Fair value of preferred shares for issued	99,838
The fair value of equity for merged company owned by the Company (*1)	<u>3,369,310</u>
Total	<u>₩ 8,166,089</u>

(\*1) ₩366,269 million was recorded as gain on disposal of investments in associates due to remeasurement of investment in associates at fair value, which was merged by the Company.

**38.2.3 Identifiable assets acquired and liabilities assumed**

1) Identifiable assets acquired and liabilities assumed due to merger is as follows (Korean won in millions):

	<u>Amount</u>
Current assets:	₩ 31,321,899
Cash and cash equivalents	7,982,345
Trade accounts receivable and other accounts receivable	12,655,057
Inventories	7,027,817
Other current assets	3,656,680
Non-current assets:	65,695,152
Investments in associates and joint ventures	12,612,743
Property, plant and equipment and investment property	39,322,592
Intangible assets	9,834,901
Trade accounts receivable and other accounts receivable	146,538
Deferred income tax assets	700,409
Other non-current assets	3,077,969
Current liabilities:	24,945,749
Trade accounts payable and other accounts payable	9,550,615
Bonds payable and short-term borrowings	7,650,108
Other current liabilities	7,745,026
Non-current liabilities:	31,056,343
Bonds payable and long-term borrowings	26,573,376
Retirement benefit obligation	337,643
Deferred income tax liabilities	3,318,574
Other non-current liabilities	<u>826,750</u>
Fair value of identifiable net assets	<u>₩ 41,014,959</u>

### 38.2.3 Identifiable assets acquired and liabilities assured (cont'd)

2) Used valuation techniques for remeasurement at fair value of acquired significant assets and liabilities is as follow:

Acquired Assets	Measurement of fair value
<i>Property, plant and equipment and investment property</i>	Market approach or cost approach: The Company determines the fair value reflecting on the created price in the available market transactions of similar assets or on the replacement cost considering the appropriate functional and economic obsolescence as well as the physical deterioration degree.
<i>Intangible assets</i>	Relief from royalty method or multi-period excess earnings method: The Company determines the fair value of intangible assets by using relief from royalty method considering the royalty discount that is expected to be avoided by the retention of the patents or trademarks directly. And the Company also determines the fair value of intangible by using multi-period excess earnings method considering the present value of net cash flows that is expected to be generated from the customer relationship.
<i>Inventories</i>	The Company determines the fair value on the basis of a reasonable profit based on the effort required to complete or sell inventories and the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.
<i>Bonds payable and borrowings</i>	The Company determines the fair value by discounting future cash flows at an effective interest rate that consider current credit rating at assessment date and spread applied to recently issued.

### 38.2.4 Gain on bargain purchase

Gain on bargain purchase for the business combination is as follows (Korean won in millions):

	Amount
The total consideration transferred	₩ 8,166,089
Deduction: fair value of identifiable net assets	(41,014,959)
Addition: non-controlling interests (*1)	27,856,285
Gain on bargain purchase	₩ (4,992,585)

(\*1) Non-controlling interests occurred due to the merger are measured in proportion to the non-controlling interest in net identifiable assets of the merged company.

## 39. Subsequent events

### 39.1 Acquisition of shares of SMCORE.Inc.

In accordance with a resolution of the board of directors on November 29, 2016, the Company acquired 5,329,707 shares (26.7%) of SMCORE.Inc. for consideration of ₩39,419 million January 11, 2017.

### 39.2 Acquisition of shares of LG Siltron Inc.

In accordance with a resolution of the board of directors on January 23, 2017, the Company expects to acquire 34,181,410 shares (51%) of LG Siltron Inc. held by LG Co., Ltd. for consideration of ₩620,000 million.

### 39.3 Paid-in capital increase of MOKGAM SERVICE

In accordance with a resolution of the board of directors on February 6, 2017, SK Networks Co., Ltd., a subsidiary, decided to participate in paid-in capital increase of MOKGAM SERVICE. In addition, SK Networks Co., Ltd. plans to invest a total of ₩17,200 million from 2017 to 2019.

#### **39.4 Spin-off of SK Shipping Co., Ltd.**

In accordance with a resolution of the board of directors on February 27, 2017, SK Shipping Co., Ltd., a subsidiary, decided to split its shipping business division, with April 1, 2017 as the division date. In addition, the company name of the surviving company after the split is SK Maritime Co., Ltd., and the name of the spin-off company is SK Shipping Co., Ltd.

#### **39.5 TRS (total revenue swap) contract for shares of SK Shipping Co., Ltd.**

In accordance with a resolution of the board of directors on February 27, 2017, the Company approved the TRS (Total Revenue Swap) contract with Samsung Securities Co., Ltd. as SK Shipping Co., Ltd.'s shares the underlying asset.

#### **39.6 Transfer of LPG business**

In accordance with a resolution of the board of directors on February 27, 2017, SK Networks Co., Ltd., a subsidiary, expects to transfer LPG business to SK Gas Co., Ltd., a related party, on March 31, 2017. The value of transfer is ₩310,246 million, and as an ancillary transaction of the contract, related property, plant and equipment will be transferred to Fine Street Asset Management.

#### **39.7 Acquisition of EAA business and assets**

In accordance with a resolution of the board of directors on February 1, 2017, SK Innovation Co., Ltd. decided to take over EAA business and assets owned by The Dow Chemical Company, which is located at the United States and Spain. The value of the take-over is USD 370 million and the transaction amount will be adjusted based on the inventory status at the time of termination of the asset transfer.