POSCO HOLDINGS INC. and Subsidiaries

Consolidated Financial Statements December 31, 2023 and 2022

(With Independent Auditors' Report Thereon)

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Independent Auditors' Report

Based on a report originally issued in Korean

The Board of Directors and Shareholders POSCO HOLDINGS INC .:

Opinion

We have audited the consolidated financial statements of POSCO HOLDINGS INC. and its subsidiaries (the "Company"), which comprise the consolidated statements of financial position as of December 31, 2023 and 2022, the consolidated statements of comprehensive income, changes in equity and cash flows for the years then ended, and notes, comprising summary of material accounting policy information and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as of December 31, 2023 and 2022, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards ("K-IFRS").

We also have audited, in accordance with Korean Standards on Auditing ("KSAs"), the Company's internal control over financial reporting ("ICFR") for consolidation purposes as of December 31, 2023 based on the criteria established in Conceptual Framework for Designing and Operating Internal Control over Financial Reporting issued by the Operating Committee of Internal Control over Financial Reporting in the Republic of Korea, and our report dated March 13, 2024 expressed an unmodified opinion on the effectiveness of the Company's internal control over financial reporting for consolidation purposes.

Basis for Opinion

We conducted our audits in accordance with Korean Standards on Auditing ("KSAs"). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements as of and for the year ended December 31, 2023. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.



(a) POSCO Eco & Challenge CO., LTD (formerly, POSCO ENGINEERING & CONSTRUCTION CO., LTD) - Estimation of percentage-of-completion by the input method

As described in notes 3 ("Revenue from contracts with customers"), 29 and 30 to the consolidated financial statements, revenue from construction contract amounted to W8,201,881 million, which was approximately 10.6% of consolidated revenue for the year ended December 31, 2023. Such revenue is primarily related to POSCO Eco & Challenge CO., LTD (formerly, POSCO ENGINEERING & CONSTRUCTION CO., LTD), a subsidiary of the Company. In connection with the Company's production-to-order revenue transactions, when the outcome of a construction contract can be estimated reliably, the Company recognizes contract revenues and contract costs over time based on the percentage-of-completion method. The percentage-of-completion is calculated based on the ratio of contract costs incurred for work performed to date excluding costs incurred that do not contribute to the progress in satisfying the Company's performance obligation over the estimated total contract costs.

Construction contracts generally have a long-term duration, and the total contract costs are estimated based on estimated future expenditures for materials, labor, outsourcing costs and others which are expected to be incurred during the construction period. Considering the impact on revenue recognition from the uncertainty in connection with the long-term contracts and changes in estimated costs, we identified estimation of percentage-of-completion by the input method related to POSCO Eco & Challenge CO., LTD (formerly, POSCO ENGINEERING & CONSTRUCTION CO., LTD) as a key audit matter.

The primary procedures we performed to address this key audit matter included the following:

- Testing certain internal controls over the Company's estimation and review on the estimated total contract costs, and review on cost allocation among projects;
- Inspecting the documents prepared by the person in charge of construction field regarding rationale and reliability of the estimated total contract costs for major construction projects;
- Inquiring and inspecting the documents regarding rationale and reliability of the estimates such as material costs, labor costs and outsourcing costs included in the estimated total contract costs on major new construction projects;
- For contracts with significant changes in total contract costs during the current year, inquiring the person in charge of construction field and inspecting documents as to the cause of such changes;
- Inquiring the person in charge of construction field and inspecting documents as to the cause of significant differences between estimated total cost and the actual total cost for projects completed during the current year; and
- For selected samples, testing the existence of contract costs incurred during the year, and whether they were aggregated or allocated to the corresponding projects for calculating percentage-of-completion through inspection of supporting documentation.



(b) Cut-off of export sales

Export sales represent a significant portion of the consolidated revenues for the Company's products and merchandise which, are shipped to other countries via vessels and other logistics. The timing of revenue recognition for export sales may vary in accordance with the "International Commercial Terms". Due to the extended period of time between shipment to and arrival of products and merchandise at their destination, there is a high risk of misstatement of the timing of revenue recognition due to fraud.

Considering the inherent risks and significance of export sales of individual subsidiaries to consolidated revenue, we have identified the appropriateness of the recognition period for export sales of POSCO, POSCO International Corporation, and POSCO FUTURE M CO., LTD (formerly, POSCO Chemical CO., LTD) as a key audit matter.

The primary procedures we performed to address this key audit matter included the following:

- Understanding the Company's policies, processes, and internal controls related to export sales;
- Assessing the Company's internal controls related to verification of the appropriateness of timing of revenue recognition;
- Inspecting the supporting documentation to assess the adequacy of timing of recognition for each type of transactions based on the terms of trade; and
- For selected samples for sales transactions during the periods close to and after year-end, inspecting the supporting documentation to assess the appropriateness of timing of revenue recognition.

Other Matter

The procedures and practices utilized in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

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

In preparing the consolidated financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Company's financial reporting process.



Auditors' Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KSAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances.
- Evaluate the appropriateness of accounting policies used in the preparation of the consolidated financial statements and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Company to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Company to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.



We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors' report is Jae Nam Hwang.

KPMG Samjong Accounting Corp.

Seoul, Korea March 13, 2024

This report is effective as of March 13, 2024, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any

POSCO HOLDINGS INC. and Subsidiaries Consolidated Statements of Financial Position As of December 31, 2023 and 2022

(in millions of Won)	Notes	December 31, 2023	December 31, 2022
Assets			
Cash and cash equivalents	4,5,23 ₩	6,670,879	8,053,108
Trade accounts and notes receivable, net	6,17,23,30,38	11,015,303	9,769,553
Other receivables, net	7,23,38	1,947,529	2,112,697
Other short-term financial assets	8,23	11,403,166	10,909,920
Inventories	9	13,825,514	15,472,417
Current income tax assets	36	101,979	243,829
Assets held for sale	10	406,945	12,003
Other current assets	16	840,984	1,075,939
Total current assets	-	46,212,299	47,649,466
Long-term trade accounts and notes receivable	e, r 6,23	42,516	24,033
Other receivables, net	7,23,38	1,452,445	1,520,331
Other long-term financial assets	8,23	2,708,325	2,332,538
Investments in associates and joint ventures	11	5,020,264	4,996,551
Investment property, net	13	1,616,294	1,074,031
Property, plant and equipment, net	14	35,206,248	31,781,195
Intangible assets, net	15	4,714,784	4,838,451
Defined benefit assets, net	21	464,758	520,659
Deferred tax assets	36	3,334,266	3,502,152
Other non-current assets	16	173,195	167,374
Total non-current assets	-	54,733,095	50,757,315
Total assets	₩_	100,945,394	98,406,781

POSCO HOLDINGS INC. and Subsidiaries Consolidated Statements of Financial Position, Continued As of December 31, 2023 and 2022

(in millions of Won)	Notes		December 31, 2023	December 31, 2021
Liabilities				
Trade accounts and notes payable	23,38	₩	5,782,825	5,520,807
Short-term borrowings and current installments				
of long-term borrowings	4,17,23		10,959,217	11,915,994
Other payables	18,23,38		2,737,478	2,865,868
Other short-term financial liabilities	19,23		163,626	106,527
Current income tax liabilities	36		319,096	502,685
Liabilities directly associated with the assets held for sale			141,890	5
Provisions	20		419,744	515,988
Other current liabilities	22,29		1,337,642	1,760,316
Total current liabilities			21,861,518	23,188,190
Long-term trade accounts and notes payable	23,38		-	15
Long-term borrowings, excluding current installments	4,17,23		15,011,163	12,389,667
Other payables	18,23		873,565	790,402
Other long-term financial liabilities	19,23		153,782	87,052
Defined benefit liabilities, net	21		38,754	37,707
Deferred tax liabilities	36		2,760,234	2,924,552
Long-term provisions	20		468,009	579,918
Other non-current liabilities	22		114,472	151,877
Total non-current liabilities			19,419,979	16,961,190
Total liabilities		,	41,281,497	40,149,380
Equity				
Share capital	24		482,403	482,403
Capital surplus	24,28		1,663,334	1,400,832
Reserves	26		67,256	(443,990)
Treasury shares	27		(1,889,658)	(1,892,308)
Retained earnings			53,857,514	52,965,179
Equity attributable to owners of the controlling company			54,180,849	52,512,116
Non-controlling interests	25		5,483,048	5,745,285
Total equity			59,663,897	58,257,401
Total liabilities and equity		<u>\Δ/</u>	100,945,394	98,406,781

POSCO HOLDINGS INC. and Subsidiaries Consolidated Statements of Comprehensive Income For the years ended December 31, 2023 and 2022

(in millions of Won, except per share information)	Notes		2023	2022
Revenue Cost of sales	29,30,38 30,32,35,38	₩_	77,127,197 (70,710,293)	84,750,204 (77,100,912)
Gross profit			6,416,904	7,649,292
Selling and administrative expenses Impairment loss on (reversal of) trade accounts and notes receivable Other administrative expenses Selling expenses	31,35 23 28,32		17,785 (2,669,687) (233,579)	(24,791) (2,479,966) (294,482)
Operating profit			3,531,423	4,850,053
Share of profit of equity-accounted investees, net	11		269,678	676,260
Finance income and costs Finance income Finance costs	23,33		3,830,746 (4,202,996)	4,834,011 (5,804,466)
Other non-operating income and expenses	34			
Impairment loss on other receivables Other non-operating income	23		(283,699) 394,346	(9,824) 592,017 (1,122,685)
Other non-operating expenses	35	-	(904,343)	(1,123,685)
Profit before income tax Income tax expense	36	_	2,635,155 (789,305)	4,014,366 (453,882)
Profit		-	1,845,850	3,560,484
Other comprehensive income (loss) Items that will not be reclassified subsequently to profit or loss: Capital adjustment arising from investments in equity-accounted investees Foreign currency translation differences Remeasurements of defined benefit plans Net changes in fair value of equity investments at fair value through other comprehensive income Items that are or may be reclassified subsequently to profit or loss: Capital adjustment arising from investments in equity-accounted investees Foreign currency translation differences Gains or losses on valuation of derivatives	21 23	-	28,745 76,433 (118,548) 257,725 207,860 34,118 (1,292)	946 (48,702) 105,769 (10,076) 132,188 52,726 1,023
Other comprehensive income, net of tax		_	485,041	233,874
Total comprehensive income		₩_	2,330,891	3,794,358
Profit attributable to: Owners of the controlling company Non-controlling interests		₩_	1,698,092 147,758	3,144,087 416,397
Profit		₩_	1,845,850	3,560,484
Total comprehensive income attributable to : Owners of the controlling company Non-controlling interests		₩	2,131,737 199,154	3,380,649 413,709
Total comprehensive income		₩_	2,330,891	3,794,358
Earnings per share (in Won) Basic earnings per share (in Won) Diluted earnings per share (in Won)	37	₩	22,382 22,382	41,456 39,126

POSCO HOLDINGS INC. and Subsidiaries	ents of Changes in Equity	For the years ended December 31, 2023 and 2022
POSCO HOLDINGS II	Consolidated Statements of Changes in Equity	For the years ended Dece

(in millions of Won)	I		Attri	butable to ov	Attributable to owners of the controlling company	controlling co	mpany		Non-	
		Share capital	Capital surplus	Hybrid bonds	Reserves	Treasury shares	Retained earnings	Subtotal	controlling interests	Total
Balance as of January 1, 2022	≹	482,403	1,387,960	199,384	(666,985)	(2,508,294)	51,532,887	50,427,355	4,377,588	54,804,943
		ı	ı	ı	ı	ı	3,144,087	3,144,087	416,397	3,560,484
Other comprehensive income										
Remeasurements of defined benefit plans, net of tax Capital adjustment arising from investments		'					67,167	67,167	38,602	105,769
in equity-accounted investees, net of tax				'	126,278		ı	126,278	6,856	133,134
Net changes in fair value of equity investments										
at fair value through other comprehensive income, net of tax		ı	'	·	49,516	ı	(59,576)	(10,060)	(16)	(10,076)
Foreign currency translation differences, net of tax		I	ı	I	52,725 150	I	ı	52,725 450	(48,701) 531	4,024
Gains or losses on valuation of derivatives, net of tax	I	'	'	'	452	'	'	452	L/G	1,023
Total comprehensive income	I	'	ľ	'	228,971	'	3,151,678	3,380,649	413,709	3,794,358
Transactions with owners of the controlling company,										
recognized directly in equity:										
Year-end dividends		I	'	I	I	1	(378, 128)	(378, 128)	(82,110)	(460,238)
Interim dividends		ı	ı	I	I	ı	(758,492)	(758,492)	I	(758,492)
Changes in subsidiaries		'	'	'	'	'	'	'	422,424	422,424
Changes in ownership interest in subsidiaries		ı	(7,827)	ı	ı	ı	'	(7,827)	425,871	418,044
Interest of hybrid bonds		ı	'	ı	I	ı	(1,487)	(1,487)	(15,007)	(16,494)
Variation due to split		'	'	(199,384)	ı	'	'	(199,384)	199,384	ı
Disposal of treasury stock		'	9,491	'	'	48,512	'	58,003	'	58,003
Retirement of treasury stock		'	ı	'	ı	567,474	(583,485)	(16,011)	'	(16,011)
Share-based payment		'	12,115	'	'	'	'	12,115	'	12,115
Others	ļ	1	(907)	I	(5,976)	ı	2,206	(4,677)	3,426	(1,251)
Total transactions with owners of the controlling company	I	'	12,872	(199,384)	(5,976)	615,986	(1,719,386)	(1,295,888)	953,988	(341,900)
Balance as of December 31, 2022	₹	482,403	1,400,832	ľ	(443,990)	(1,892,308)	52,965,179	52,512,116	5,745,285	58,257,401

See accompanying notes to the consolidated financial statements.

POSCO HOLDINGS INC. and Subsidiaries Consolidated Statements of Changes in Equity, Continued For the years ended December 31, 2023 and 2022

(in millions of Won)	l		Attributable	to owners of	Attributable to owners of the controlling company	ng company		Non-	
		Share	Capital		Treasury	Retained		controlling	
	I	capital	surplus	Reserves	shares	earnings	Subtotal	interests	Total
Balance as of January 1, 2023	≯	482,403	1,400,832	(443,990)	(1,892,308)	52,965,179	52,512,116	5,745,285	58,257,401
Comprehensive income:									
Profit		I	I	I	ı	1,698,092	1,698,092	147,758	1,845,850
Other comprehensive income									
Remeasurements of defined benefit plans, net of tax		I	I	I	I	(83,148)	(83,148)	(35,400)	(118,548)
Capital adjustment arising from investments in equity-accounted investees, net of tax		ı	I	225,591	ı	ı	225,591	11,014	236,605
Net changes in fair value of equity investments at fair value through other comprehensive income, net of tax		I	1	257,122	ı	603	257,725	ı	257,725
Foreign currency translation differences, net of tax		I	I	34,118	I	I	34,118	76,433	110,551
Gains or losses on valuation of derivatives, net of tax	ļ	'	'	(641)	1		(641)	(651)	(1,292)
Total comprehensive income	Į	ı	T	516,190	'	1,615,547	2,131,737	199,154	2,330,891
Transactions with owners of the controlling company,									
recognized directly in equity:									
Year-end dividends			ı	ı	I	(151,698)	(151,698)	(94,690)	(246,388)
Interim dividends		ı	'	ı	ı	(569,072)	(569,072)	I	(569,072)
Changes in subsidiaries		·	ı	ı	ı	I	ı	5,805	5,805
Changes in ownership interest in subsidiaries		I	250,363	ı	ı	ı	250,363	12,383	262,746
Interest of hybrid bonds		'	ı	ı	I	I	I	(8,925)	(8,925)
Repayment of hybrid bonds		I	'	'	ı	ı	ı	(339,837)	(339,837)
Disposal of treasury stock		ı	2,880	'	2,650	'	5,530	1	5,530
Share-based payment		I	6,783	·	ı	ı	6,783	17,324	24,107
Others	I	'	2,476	(4,944)	ı	(2,442)	(4,910)	(53,451)	(58,361)
Total transactions with owners of the controlling company	ļ	'	262,502	(4,944)	2,650	(723,212)	(463,004)	(461,391)	(924,395)
Balance as of December 31, 2023	\$	482,403	1,663,334	67,256	(1,889,658)	53,857,514	54,180,849	5,483,048	59,663,897

POSCO HOLDINGS INC. and Subsidiaries Consolidated Statements of Cash Flows For the years ended December 31, 2023 and 2022

(in millions of Won)	Notes		2023	2022
Cash flows from operating activities				
Profit		₩	1,845,850	3,560,484
Adjustments for:				
Depreciation			3,346,461	3,204,744
Amortization			498,193	488,835
Finance income			(1,850,756)	(1,943,661
Finance costs			2,179,233	2,532,735
Income tax expense			789,305	453,883
Impairment loss on property, plant and equipment			275,846	213,183
Gain on disposal of property, plant and equipment			(9,387)	(18,502
Loss on disposal of property, plant and equipment			125,823	111,082
Impairment loss on goodwill and other intangible as	ssets		129,907	370,663
Gain on disposal of investments				
in subsidiaries, associates and joint ventures			(197,088)	(13,904
Loss on disposal of investments				
in subsidiaries, associates and joint ventures			18,843	12,400
Share of profit of equity-accounted investees			(269,678)	(676,260
Gain on disposal of assets held for sale			(1,312)	(55,262
Loss on disposal of assets held for sale			103,366	3,964
Expenses related to post-employment benefit			206,614	228,611
Impairment loss on trade and other receivables			265,914	34,615
Loss on valuation of inventories			309,317	259,678
Increase to provisions			160,880	289,915
Gain on insurance claim			(7,682)	(236,344
Others, net			(43,817)	28,382
			6,029,982	5,288,757
Changes in operating assets and liabilities	40		(1,087,257)	(335,364
Interest received			447,621	249,751
Interest paid			(1,038,005)	(560,766
Dividends received			696,941	757,502
Income taxes paid			(727,437)	(2,773,599
Net cash provided by operating activities		<u>\</u>	6,167,695	6,186,765

POSCO HOLDINGS INC. and Subsidiaries Consolidated Statements of Cash Flows, Continued For the years ended December 31, 2023 and 2022

(in millions of Won)	Notes		2023	2022
	Notes		2020	2022
Cash flows from investing activities Acquisitions of short-term financial instruments Proceeds from disposal of short-term financial instruments Increase in loans Collection of loans Acquisitions of securities		₩	(39,830,719) 40,174,440 (1,238,668) 1,369,763 (380,744)	(89,327,182) 91,539,884 (1,087,409) 1,086,964 (493,054)
Proceeds from disposal of securities Acquisitions of long-term financial instruments Acquisitions of investment in associates and joint ventures			142,791 (5,362) (417,603)	332,724 (21,638) (518,158)
Proceeds from disposal of investment in associates and joint ventures Acquisitions of investment property Proceeds from disposal of investment property Acquisitions of property, plant and equipment Proceeds from disposal of property, plant and equipment Acquisitions of intangible assets Proceeds from disposal of intangible assets Proceeds from disposal of assets held for sale Collection of lease receivables Cash outflows due to business combinations, net of cash acquired Cash inflow from insurance claim Others, net			142,316 (56,043) 707 (6,733,289) (11,895) (481,882) 30,328 4,850 52,657 (150,201) 7,682 (7,352)	169,365 (1,561) 23,401 (4,927,586) 864 (492,873) 7,748 111,488 54,614 (901,223) 236,344 (12,583)
Net cash used in investing activities		₩	(7,388,224)	(4,219,871)
Cash flows from financing activities Proceeds from borrowings Repayment of borrowings Proceeds from (repayment of) short-term borrowings, net Capital contribution from non-controlling interests Payment of cash dividends Repayment of hybrid bonds Payment of interest of hybrid bonds Repayment of lease liabilities Others, net			7,817,217 (4,461,114) (2,524,077) 299,342 (815,451) (340,000) (10,043) (222,829) 78,362	4,553,746 (4,138,054) 1,764,569 577,330 (1,218,405) - (16,494) (268,082) 64,798
Net cash provided by (used in) financing activities	40	₩	(178,593)	1,319,408
Effect of exchange rate fluctuation on cash held			16,719	(8,740)
Net increase(decrease) in cash and cash equivalents			(1,382,403)	3,277,562
Cash and cash equivalents at beginning of the period	5,10		8,053,282	4,775,720
Cash and cash equivalents at end of the period	5,10	₩	6,670,879	8,053,282

1. General Information

General information about POSCO HOLDINGS INC., its 52 domestic subsidiaries including POSCO, 139 foreign subsidiaries including POSCO America Corporation (collectively "the Company") and its 119 associates and joint ventures are as follows:

(a) The controlling company

POSCO HOLDINGS INC., the controlling company, was established on April 1, 1968, under the Commercial Code of the Republic of Korea. The shares of the Company have been listed on the Korea Exchange since June 10, 1988. The Company operates an investment business that controls and manages through ownership of shares of subsidiaries etc.

On March 2, 2022, the Company established a new subsidiary, POSCO, by a vertical spin-off of its steel business (The surviving company owns 100% of shares) on March 1, 2022, and changed the name of the surviving company to POSCO HOLDINGS INC..

As of December 31, 2023, POSCO HOLDINGS INC.'s shareholders are as follows:

Shareholder's name	Number of shares	Ownership (%)
National Pension Service	5,393,999	6.38
BlackRock Fund Advisors(*1)	4,206,522	4.97
Nippon Steel Corporation	2,894,712	3.42
Pohang University of Science and Technology	1,981,047	2.34
The Government of Singapore(GIC)	1,759,571	2.08
Others	68,335,379	80.81
	84,571,230	100.00

(*1) Includes shares held by subsidiaries and others.

As of December 31, 2023, the shares of POSCO HOLDINGS INC. are listed on the Korea Exchange, while its ADRs are listed on the New York Stock Exchange.

(b) Consolidated subsidiaries

Details of consolidated subsidiaries as of December 31, 2023 and 2022 are as follows:

			ecember 31, 2023	01110	rship (%) r	ecember 31, 2022		
		POSCO	December 31, 2023		POSCO	ecember 31, 2022		
	Principal operations	HOLDINGS	Subsidiaries	Total	HOLDINGS	Subsidiaries	Total	Region
Domestic]								
POSCO	Steel, rolled products and plates	100.00	-	100.00	100.00	-	100.00	Pohang
POSCO Eco & Challenge Co., Ltd.								
(formerly, POSCO ENGINEERING &		50.00		50.00	50.00		50.00	
CONSTRUCTION CO., LTD.)	Engineering and construction	52.80		52.80	52.80		52.80	Pohang
POSCO STEELEON Co., Ltd. POSCO DX	Coated steel manufacturing	-	56.96	56.96	-	56.87	56.87	Pohang
	Computer hardware and software distribution	65.38		65.38	65.38		65.38	Pohano
(formerly, POSCO ICT)		100.00			100.00		100.00	
POSCO Research Institute	Economic research and consulting	100.00	-	100.00	100.00	-	100.00	Seoul
POSCO WIDE Co., Ltd. (formerly, POSCO O&M Co., Ltd.)	Business facility maintenance	100.00		100.00	47.17	52.83	100.00	Seoul
POSCO A&C	Architecture and consulting		100.00	100.00	45.66	54.34	100.00	Seoul
POSCO Venture Capital Co., Ltd.	Investment in venture companies	100.00		100.00	95.00	-	95.00	Pohang
eNtoB Corporation	Electronic commerce	-	69.32	69.32	-	69.32	69.32	Seoul
POSCO FUTURE M CO.,LTD.	Refractories, Anode/Cathode materials							
(formerly, POSCO CHEMICAL CO., LTD.)	manufacturing and sales	59.75		59.75	59.76	-	59.76	Pohang
POSCO FLOW Co., Ltd.	Transporting and warehousing	100.00	-	100.00	100.00	-	100.00	Gwangya
POSCO M-TECH	Packing materials manufacturing and sales	-	48.94	48.94	-	48.85	48.85	Pohang
POSCO ENERGY CO., LTD.(*1)	Generation of electricity	-		-	100.00		100.00	Seoul
PNR	Steel by product manufacturing and sales	-	70.00	70.00	-	70.00	70.00	Pohang
Future Creation Fund Postech								
Early Stage account	Investment in venture companies	-	-	-	-	40.00	40.00	Seoul
POSCO WOMAN'S FUND	Investment in venture companies	-	40.00	40.00	-	40.00	40.00	Seoul
SPH Co., Ltd.	House manufacturing and management			-		100.00	100.00	Incheor
POSCO Group University	Education service and real estate business	100.00		100.00	100.00		100.00	Incheor
Growth Ladder POSCO K-Growth Global Fund	Investment in venture companies	100.00	50.00	50.00	100.00	50.00	50.00	Pohano
POSCO IH	investment in venture companies	-	50.00	50.00	-	50.00	30.00	ronang
(formerly, POSCO Research & Technology)	Intellectual Property Services and consulting	100.00		100.00	100.00		100.00	Seoul
TANCHEON E&E	Refuse derived fuel and power generation	100.00	100.00	100.00	100.00	100.00	100.00	Seoul
POSCO Humans	Business assistance service	-	100.00	100.00	-	100.00	100.00	Pohang
Mapo Hibroad Parking Co., Ltd.	Construction	-	71.00	71.00	-	71.00	71.00	Seoul
			/1.00			/1.00		
Busan E&E Co., Ltd.	Refuse derived fuel and power generation	70.00	-	70.00	70.00	-	70.00	Busan
POSCO INTERNATIONAL Corporation	Trading, power generation, energy & resource							
	development and others	73.21		73.21	62.92	-	62.92	Incheor
Pohang Scrap Recycling Distribution								
Center Co., Ltd.	Steel processing and sales	-	51.00	51.00	-	51.00	51.00	Pohang
Songdo Development PMC (Project								
Management Company) LLC.	Housing business agency	-	100.00	100.00	-	100.00	100.00	Incheor
Korea Fuel Cell	Fuel cell	-	100.00	100.00	-	100.00	100.00	Pohang
POSCO GEM 1 st Fund	Investment in venture companies	98.81	1.19	100.00	98.81	1.19	100.00	Pohang
POSCO MOBILITY SOLUTION	STC, TMC, Plate manufacturing and sales	-	100.00	100.00	-	100.00	100.00	Cheona
P&O Chemical Co., Ltd.	Chemical production	-	51.00	51.00	-	51.00	51.00	Gwangya
Posco New Growth	Investment in venture companies	99.86	0.14	100.00	99.67	0.18	99.85	Seoul
IMP Fund I	Investment in venture companies	98.04		98.04	98.04		98.04	Pohang
POSCO-Pilbara LITHIUM SOLUTION								
Co., Ltd.	Lithium manufacturing and sales	82.00		82.00	82.00		82.00	Gwangya
POSCO-HY Clean Metal Co., Ltd.	Non-ferrous metal smelting		65.00	65.00		65.00	65.00	Gwangya
Consus Pf Private Real Estate Fund	REITs	-	66.67	66.67	-	66.67	66.67	
New Energy Hub		-	100.00	100.00	50.00	50.00	100.00	- Gwangya
	Electricity and gas supply	-			50.00			
Posco Busan Newdeal Fund	Investment in venture companies	-	32.00	32.00	-	32.00	32.00	Pohang
Shinan Green Energy Co., LTD	Electricity production	-	54.53	54.53	-	54.53	54.53	Shinahr
eSteel4U	Wholesales and retail	-	61.12	61.12	-	61.12	61.12	Seoul
POSCO Social Investment Fund	Investment in venture companies	20.00	50.00	70.00	20.00	50.00	70.00	Pohang
POSCO Silicon Solution Co., Ltd	Other engineering R&D industries	100.00	-	100.00	100.00	-	100.00	Sejong
Consus Pf Private Real Estate Fund No.2	Real estate development		66.67	66.67	-	66.67	66.67	
POSCO GS Eco Materials Co., Ltd	Rechargeable battery	51.00		51.00	100.00		100.00	Seoul
POSCO Lithium Solution Co., Ltd.	Lithium manufacturing and sales	100.00		100.00	100.00		100.00	Gwangya
QSONE Co.,Ltd.(*3)	Real estate rental	100.00		100.00	100.00	-	100.00	Seoul
POSCO PS Tech		100.00	-		-		-	Pohano
	Maintenance service	-	100.00	100.00	-	-	-	
POSCO PR Tech	Maintenance service	-	100.00	100.00	-	-	-	Pohang
POSCO PH Solution	Maintenance service	-	100.00	100.00	-			Pohang
POSCO GYS Tech	Maintenance service	-	100.00	100.00	-	-	-	Gwangya
POSCO GYR Tech	Maintenance service	-	100.00	100.00	-	-	-	Gwangya
POSCO GY Solution	Maintenance service	-	100.00	100.00	-	-	-	Gwangya
PCC Facilities Component Fund	Investment Association	-	60.00	60.00	-	-	-	Pohang
POSCO HOLDINGS CVC 2nd Fund	Investment in new technologies business	98.80	1.20	100.00	-	-		Pohang
International Energy Expansion		55.00						
for Technology Innovation Fund	Investment in new technologies business		60.00	60.00				Pohano

				Owner	ship (%)			
			ecember 31, 2023		C	ecember 31, 2022		
	Principal operations	POSCO HOLDINGS	Subsidiaries	Total	POSCO HOLDINGS	Subsidiaries	Total	Region
Foreign]								
POSCO America Corporation	Research&Consulting	99.45	0.54	99.99	99.45	0.55	100.00	USA
POSCO AUSTRALIA PTY LTD	Raw material sales & mine development	100.00	-	100.00	100.00		100.00	Australi
POSCO Canada Ltd.	Coal sales	100.00	-	100.00	100.00	-	100.00	Canada
POSCO Asia Co., Ltd.	Finance	100.00	-	100.00	100.00	-	100.00	China
POSCO-CTPC Co., Ltd.	Steel manufacturing and sales	100.00	-	100.00	100.00	-	100.00	China
POSCO E&C Vietnam Co., Ltd.	Steel structure manufacturing and sales	-	100.00	100.00	-	100.00	100.00	Vietnar
POSCO (Zhangjiagang) Stainless Steel Co.,Ltd.	Stainless steel manufacturing and sales	58.60	23.88	82.48	58.60	23.88	82.48	China
POSCO (Thailand) Company Limited	Steel manufacturing and sales	-	100.00	100.00	-	100.00	100.00	Thailan
POSCO-MKPC SDN BHD	Steel manufacturing and sales	-	70.00	70.00	-	70.00	70.00	Malaysi
Dingdao Pohang Stainless Steel Co., Ltd.	Stainless steel manufacturing and sales	70.00	30.00	100.00	70.00	30.00	100.00	China
POSCO(Suzhou) Automotive Processing Center Co., Ltd.	Steel manufacturing and sales	90.00	10.00	100.00	90.00	10.00	100.00	China
POSCO-China Qingdao Processing Center Co.Ltd.	Steel manufacturing and sales	100.00	-	100.00	100.00		100.00	China
POS-ORE PTY LTD	Iron ore development and sales	-	100.00	100.00	-	100.00	100.00	Austral
POSCO-China Holding Corp.	Holding company	100.00	-	100.00	100.00	-	100.00	China
POSCO JAPAN Co., Ltd.	Steel Marketing, demand development and							
	technology research	100.00	-	100.00	100.00	-	100.00	Japar
POS-CD PTY LTD	Coal sales	-	-	-	-	100.00	100.00	Austral
POS-GC PTY LTD	Coal sales	-	100.00	100.00	-	100.00	100.00	Austral
POSCO-India Private Limited	Steel manufacturing and sales	-	100.00	100.00	-	100.00	100.00	India
POSCO-India Pune Processing Center. Pvt. Ltd.	Steel manufacturing and sales	65.00	-	65.00	65.00	-	65.00	India
POSCO Japan PC CO.,LTD	Steel manufacturing and sales	-	86.12	86.12	-	86.12	86.12	Japan
POSCO-CFPC Co., Ltd.	Steel manufacturing and sales	44.66	55.34	100.00	44.66	55.34	100.00	China
POSCO E&C CHINA Co., Ltd.	Civil engineering and construction	-	100.00	100.00	-	100.00	100.00	China
POSCO MPPC S.A. de C.V.	Steel manufacturing and sales	21.02	75.29	96.31	21.02	75.29	96.31	Mexic
Zhangjigang Pohang Port Co., Ltd.	Loading and unloading service	-	100.00	100.00	-	100.00	100.00	China

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

			December 31, 2023	Owner	ship (%)	December 31, 2022		
	Principal operations	POSCO HOLDINGS	Subsidiaries	Total	POSCO HOLDINGS	Subsidiaries	Total	Region
oreign]		HOLDINGS			HOLDINGS			
POSCO-VIETNAM Co., Ltd. POSCO MEXICO S.A. DE C.V. POSCO-Poland Wroclaw Processing Center	Steel manufacturing and sales Automotive steel sheet manufacturing and sales	-	100.00 98.16	100.00 98.16	83.28	100.00 14.88	100.00 98.16	Vietnam Mexico
Sp. z o. o. OS-NP PTY I TD	Steel manufacturing and sales Coal sales	-	60.00 100.00	60.00 100.00	60.00	- 100.00	60.00 100.00	Poland Australi
AEWOO INTERNATIONAL SHANGHAI VAIGAOQIAO CO., LTD	Intermediary trade & bonded warehouse operation		100.00	100.00	-	100.00	100.00	China
Bio Inti Agrindo SCO ENGINEERING AND CONSTRUCTION	Forest resources development	-	85.00	85.00	-	85.00	85.00	Indones
AUSTRALIA (POSCO E&C AUSTRALIA) PTY LTD DSCO-TISCO (JILIN) PROCESSING	Construction and engineering service	-	100.00	100.00	-	100.00	100.00	Australi
CENTER Co., Ltd. DSCO Thainox Public Company Limited UNCHUN POSCO HMM INTERNATIONAL	Steel manufacturing and sales STS cold-rolled steel manufacturing and sales	50.00	10.00 74.56	60.00 74.56	50.00	10.00 74.56	60.00 74.56	China Thailan
OGISTICS CO., LTD. DSCO INTERNATIONAL VIETNAM CO., LTD DSCO(Chongqing) Automotive Processing	Logistics Trading business	-	81.55 100.00	81.55 100.00	-	81.55 100.00	81.55 100.00	China Vietnar
Center Co., Ltd. JZHOU POSCO-CORE TECHNOLOGY	Steel manufacturing and sales	-	100.00	100.00	-	100.00	100.00	China
CO., LTD. T.KRAKATAU POSCO FUTUREM	Component manufacturing and sales	-	100.00	100.00	-	100.00	100.00	China
formerly, PT.Krakatau Posco Chemical Calcination) DSCO AFRICA (PROPRIETARY) LIMITED	Quicklime manufacturing and sales Mine development	- 100.00	80.00	80.00 100.00	- 100.00	80.00	80.00 100.00	Indones South Af
DSCO DX BRASIL DSCO Center Beijing	IT service and engineering Real estate development, rental	-		-	-	100.00	100.00	Brazil
DSCO-Malaysia SDN. BHD.	and management Steel manufacturing and sales	-	100.00 95.42	100.00 95.42	-	100.00 95.42	100.00 95.42	China Malaysi
TKRAKATAU BLUE WATER	Wastewater treatment facilities operation and maintenance	-	67.00	67.00		67.00	67.00	Indones
OSCO INTERNATIONAL MYANMAR CO., LTD.	Trading business	-	100.00	100.00	-	100.00	100.00	Myanm
OSCO-Italy Processing Center	Stainless steel sheet manufacturing and sales	88.89	11.11	100.00	88.89	11.11	100.00	Italy
yanmar POSCO C&C Company,Limited. DSCO DX VIETNAM	Steel manufacturing and sales IT service and electric control engineering	-	70.00	70.00 100.00	-	70.00	70.00 100.00	Myanm Vietnai
JSCO DX VIETNAM JSCO INTERNATIONAL GLOBAL DEVELOPMENT PTE.LTD.	Il service and electric control engineering Real estate development	-	75.00	75.00	-	75.00	75.00	Singapo
yanmar POSCO Engineering & Construction Company, Limited.	Construction and engineering service	-	100.00	100.00	-	100.00	100.00	Myanm
S-Minerals Corporation SCO(Wuhu) Automotive Processing	Mine development management and sales	-	100.00	100.00	-	100.00	100.00	USA
enter Co., Ltd. SCO Engineering and Construction	Steel manufacturing and sales	68.57	31.43	100.00	68.57	31.43	100.00	China
ndia Private Limited ISCO COATED STEEL (THAILAND)	Civil engineering and construction	-	100.00	100.00	-	100.00	100.00	India
:O., LTD.	Vehicle steel manufacturing and sales		100.00	100.00		100.00	100.00	Thailar
OSCO INTERNATIONAL AMARA Co., Ltd. OSCO WIDE-CHINA CO., LTD OSCO-Mexico Villagran Wire-rod	Real estate development Business facility maintenance	-	85.00 100.00	85.00 100.00	-	85.00 100.00	85.00 100.00	Myanm China
Processing Center DSCO ChengDu Processing Center	Steel manufacturing and sales Steel manufacturing and sales	-	66.75 43.00	66.75 43.00	56.75	10.00 43.00	66.75 43.00	Mexic China
DSCO(Suzhou) Steel Processing Center CO., LTD. DSCO E&C SMART S DE RL DE CV	Steel manufacturing and sales Civil engineering and construction	÷	100.00 100.00	100.00 100.00	-	100.00	100.00 100.00	China Mexic
DSCO Philippine Manila Processing Center, Inc.	Steel manufacturing and sales		100.00	100.00		100.00	100.00	Philippin
DSCO E&C HOLDINGS CO.,Ltd.	Holding company	-	100.00	100.00	-	100.00	100.00	Thailan
PNGLAE) LTD. F.KRAKATAU POSCO SOCIAL	Electricity production	-	100.00	100.00	-	100.00	100.00	Papua New
ENTERPRISE SERVICES INDONESIA	Social enterprise	-	99.91	99.91	-	100.00	100.00	Indones
entanas Philippines Construction Inc	Construction	-	100.00	100.00	-	100.00	100.00	Philippin
ANPU TRADING Co., Ltd.	Raw material trading Steel Intermediate trade	-	70.04 100.00	70.04 100.00	-	70.04 100.00	70.04 100.00	China China
nangjiagang BLZ Pohang International Trading DSCO RU Limited Liability Company OLDEN LACE POSCO INTERNATIONAL	Trade and business development	100.00	-	100.00	100.00	-	100.00	Russi
CO., LTD.	Rice processing		60.00	60.00		60.00	60.00	Myanm
OSCO DX China CO.,LTD	IT service and DVR business		100.00	100.00		100.00	100.00	China
os-Sea Pte Ltd	Steel Intermediate trade	-	100.00	100.00	-	100.00	100.00	Singapo
DSCO Europe Steel Distribution Center DSCO ENGINEERING (THAILAND) CO., LTD.	Logistics & Steel sales Construction and engineering service	-	70.00 100.00	70.00 100.00	-	70.00 100.00	70.00 100.00	Sloven Thailar
DSCO ENGINEERING (THAILAND) CO., LTD. DSCO VST CO., LTD.	Stainless steel sheet manufacturing and sales	95.65		95.65	95.65		95.65	Vietnar
DSCO INTERNATIONAL UKRAINE, LLC. angjiagang Pohang Refractories Co., Ltd.	Grain sales Refractory materials sales & furnace	-	100.00	100.00	-	100.00	100.00	Ukrair
OSCO Maharashtra Steel Private Limited	maintenance Steel manufacturing and sales	- 100.00	51.00	51.00 100.00	- 100.00	51.00	51.00 100.00	China India
DSCO INDIA PROCESSING CENTER PRIVATE LIMITED DSCO TNPC Otomotiv Celik San. Ve Tic. A.S	Steel manufacturing and sales Steel manufacturing and sales	93.34	1.98 100.00	95.32 100.00	93.34	1.98 100.00	95.32 100.00	India Turkiy
OSCO Vietnam Processing Center loint Stock Company	Steel manufacturing and sales	84.04	15.96	100.00	94.05	5.95	100.00	Vietnar
DSCO(Liaoning) Automotive Processing Center Co., Ltd.	- Steel manufacturing and sales	90.00	10.00	100.00	90.00	10.00	100.00	China
OSCO-Indonesia Jakarta Processing Center	Steel manufacturing and sales	-	92.20	92.20	70.51	21.69	92.20	Indones
T.MOTTA RESOURCES INDONESIA DSCO TMC INDIA PRIVATE LIMITED	Mine development Steel manufacturing and sales	65.00	- 100.00	65.00 100.00	65.00	- 100.00	65.00 100.00	Indones India
DSCO AMERICA ALABAMA PROCESSING CENTER CO., LTD.	Steel manufacturing and sales	-	97.80	97.80	-	97.80	97.80	USA
OSCO(Yantai) Automotive Processing Center Co., Ltd. OSCO India Steel Distribution Center	Steel manufacturing and sales	90.00	10.00	100.00	90.00	10.00	100.00	China
	Steel logistics	-	100.00	100.00	-	100.00	100.00	India
Private Ltd.	orean logistics							
Private Ltd. POSCO YAMATO VINA STEEL JOINT STOCK	Steel manufacturing and sales	-	51.00	51.00	-	51.00	51.00	Vietnar
Private Ltd. POSCO YAMATO VINA STEEL JOINT STOCK COMPANY	-	-	51.00 66.99	51.00 66.99	-	51.00 66.99	51.00 66.99	
VICEO MINA CREE DISTUINANCE CENTER POSCO YAMATO VINA STEEL JOINT STOCK COMPANY PT.POSCO DX INDONESIA VOSCO NCR Coal Ltd. VOSCO WA PTV LTD	- Steel manufacturing and sales	- - 100.00			- - - 100.00			Vietnar Indones Canada Australi

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

				Owner	ship (%)	B 1 01 0111		
		POSCO	December 31, 2023		POSCO	December 31, 2022		
	Principal operations	HOLDINGS	Subsidiaries	Total	HOLDINGS	Subsidiaries	Total	Regio
Foreign]								
PT. KRAKATAU POSCO ENERGY	Electricity production construction and							
	operation	-	55.00	55.00	-	90.00	90.00	Indone
OSCO INTERNATIONAL AMERICA CORP.	Trading business	-	100.00	100.00	-	100.00	100.00	USA
OSCO INTERNATIONAL Deutschland GMBH	Trading business	-	100.00	100.00	-	100.00	100.00	Germi
OSCO INTERNATIONAL JAPAN CORP.	Trading business	-	100.00	100.00	-	100.00	100.00	Japa
OSCO INTERNATIONAL SINGAPORE PTE. LTD.	Trading business	-	100.00	100.00	-	100.00	100.00	Singap
OSCO INTERNATIONAL ITALIA S.R.L.	Trading business	-	100.00	100.00	-	100.00	100.00	Ital
OSCO INTERNATIONAL (CHINA) CO., LTD	Trading business		100.00	100.00		100.00	100.00	Chir
OSCO INTERNATIONAL TEXTILE LLC.	Textile manufacturing		100.00	100.00		100.00	100.00	Uzbeki
OSCO INTERNATIONAL AUSTRALIA								
HOLDINGS PTY. LTD.	Resource development		100.00	100.00		100.00	100.00	Austr
		-			-			
OSCO MAURITIUS LIMITED	Coal development and sales	-	100.00	100.00	-	100.00	100.00	Mauri
T. KRAKATAU POSCO	Steel manufacturing and sales	-	50.00	50.00	50.00	-	50.00	Indon
OSCO INTERNATIONAL MEXICO, S.A de C.V	Trading business	-	100.00	100.00	-	100.00	100.00	Mex
OSCO INTERNATIONAL MALAYSIA SDN BHD	Trading business	-	100.00	100.00	-	100.00	100.00	Malay
T.POSCO INDONESIA INTI	Consulting	100.00		100.00	100.00	-	100.00	Indon
OSCO INTERNATIONAL SHANGHAI CO., LTD.	Trading business		100.00	100.00		100.00	100.00	Chir
PGSF, L.P.	Investment in bio tech Industry	-		-	-	100.00	100.00	US
OSCO INTERNATIONAL INDIA PVT., LTD	Trading business		100.00	100.00	-	100.00	100.00	Ind
OSCO(Dalian) IT Center Development Co., Ltd.	Real estate development and investment		100.00	100.00		100.00	100.00	Chir
T. POSCO E&C INDONESIA	Civil engineering and construction		100.00	100.00		100.00	100.00	Indon
IUME COAL PTY LTD	Raw material manufacturing		100.00	100.00		100.00	100.00	Austr
Brazil Sao Paulo Steel Processing Center	Steel manufacturing and sales		76.00	76.00		76.00	76.00	Bra
OSCO ENGINEERING & CONSTRUCTION	Steel manufacturing and sales		70.00	70.00		70.00	70.00	Dia
	0		100.00	100.00		100.00	100.00	Bra
DO BRAZIL LTDA.	Construction							
OSCO ASSAN TST STEEL INDUSTRY Inc	Steel manufacturing and sales	60.00	10.00	70.00	60.00	10.00	70.00	Turk
IONG KONG POSCO E&C (CHINA)								
INVESTMENT Co., Ltd.	Real estate development and investment	-	100.00	100.00	-	100.00	100.00	Hong
IB CLARK HILLS	Apartment construction	-	70.00	70.00	-	70.00	70.00	Philipp
OS-LT Pty Ltd	Lithium mining investment	-	100.00	100.00	-	100.00	100.00	Austr
HEJIANG POSCO-HUAYOU ESM CO., LTD	Anode material manufacturing	14.67	45.33	60.00	18.70	41.30	60.00	Chir
OSCO Argentina S.A.U.	Mineral exploration/manufacturing/sales	100.00		100.00	100.00		100.00	Argen
RAIN TERMINAL HOLDING PTE, LTD.	Trading business		75.00	75.00		75.00	75.00	Singa
Aykolaiv Milling Works PJSC.	Grain trading		100.00	100.00		100.00	100.00	Ukra
uzhnaya Stevedoring Company Limited LLC.	Cargo handling		100.00	100.00		100.00	100.00	Ukra
losco International (Thailand) Co., Ltd.	Trade		100.00	100.00		100.00	100.00	Thaila
		-			-			
T POSCO INTERNATIONAL INDONESIA	Trade	-	100.00	100.00	-	100.00	100.00	Indon
EC POWERCON SDN. BHD.	Construction and engineering service	-	100.00	100.00	-	100.00	100.00	Mala
oland Legnica Sourcing Center Sp. z o.o	Non-ferrous metal Smetling	100.00		100.00	100.00		100.00	Pola
POSCO INTERNATIONAL E&P MALAYSIA SDN.								
BHD.	Extraction of Crude petroleum and Natural gas	-	100.00	100.00	-	100.00	100.00	Malay
AGPA PTE. LTD.	Holding company	-	100.00	100.00	-	100.00	100.00	Singap
enex Holdings PTY LTD(*2)	Resource Development	-	50.10	50.10	-	50.10	50.10	Austr
osco International Mexico e-Mobility S.A DE C.V.	Electric Vehicle Parts Manufacturing		100.00	100.00	-	100.00	100.00	Mex
osco Future Materials Canada Inc.								
(formerly, POSCO CHEMICAL CANADA INC)	Holding company		100.00	100.00		100.00	100.00	Cana
II TIUM CAM GP INC	Holding company		85.00	85.00		85.00	85.00	Cana
ILTIUM CAM LIMITED PARTNERSHIP	Anode material manufacturing		85.00	85.00		85.00	85.00	Cana
OSCO(Wuhan) Automotive Processing Center	Anoue material manufacturing	-	00.00	00.00	-	00.00	00.00	Carlo
CoLtd		68.57	31.43	100.00	68.57	31.43	100.00	
	Steel manufacturing and sales	68.57			68.57			Chir
OSCO BRAZIL LTDA	Office Administration, Management Consulting	-	100.00	100.00	-	100.00	100.00	Bra
ort Hedland Green Steel Pty Ltd	Iron and steel manufacturing	-	100.00	100.00	-	-	-	Austr
T AGPA REFINERY COMPLEX	Animal/vegetable oil manufacturing	-	60.00	60.00	-	-	-	Indon
OSCO MOBILITY SOLUTION POLAND								
Sp. z o.o.,	Manufacturing, automobile motor parts		100.00	100.00				Pola
T POSCO INTERNATIONAL ENP								
INDONESIA	Crude oil and natural gas		100.00	100.00	-			Indone
POSCO INTERNATIONAL E&P USA Inc.	Carbon capture and storage, resource development	-	100.00	100.00	-	-	-	US
POSCO FLOW CANADA INC.	Transporting and warehousing		100.00	100.00	-		-	Cana
					-	-	-	
OSCO FLOW (Shanghai) Co.,Ltd	Transporting	-	100.00	100.00	-	-	-	Chir

- (*1) POSCO ENERGY CO., LTD. was merged into POSCO INTERNATIONAL Corporation as of January 1, 2023.
- (*2) Senex Holdings PTY LTD includes 22 subsidiaries including Senex Energy Limited.
- (*3) During the year ended December 31, 2023, the Company acquired an additional 50% of the shares held by external shareholders of QSONE Co.,Ltd., which was previously classified as investment in associate. Accordingly, the entity was newly included in consolidated subsidiary due to obtaining control of the entity

The controlling company's interests in the subsidiaries increased by W250,363 million (POSCO INTERNATIONAL Corporation and others) and decreased W7,827 million (POSCO FUTURE M CO.,LTD. and others) in 2023 and 2022, respectively, as a result of changes in the Company's ownership investment in subsidiaries that did not result in a loss of control.

POSCO HOLDINGS INC. received dividends of W441,113 million and W122,838 million from its subsidiaries in aggregate in 2023 and 2022, respectively.

As of December 31, 2023, there are no restrictions on the ability of subsidiaries to transfer funds to the controlling company, such as in the form of cash dividends, repayment of loans or payment of advances.

(c) Summarized financial information of principal subsidiaries as of and for the years ended December 31, 2023 and 2022 are as follows:

1) December 31, 2023

(in millions of Won)

Company	Assets	Liabilities	Equity	Sales	Net income (loss)
[Domestic]					
POSCO	45,825,529	12,716,600	33,108,929	38,971,567	1,179,665
POSCO Eco & Challenge Co., Ltd.					
(formerly, POSCO ENGINEERING & CONSTRUCTION CO.,LTD.)	7 961 704	4 455 205	3,406,499	0 524 502	100 202
POSCO STEELEON Co., Ltd.	7,861,704 529,525	4,455,205 174,724	3,400,499	9,534,592 1,132,510	198,203 32,276
POSCO DX	525,525	174,724	554,001	1,132,010	52,270
(formerly, POSCO ICT)	871,343	418,446	452,897	1,445,326	88,527
eNtoB Corporation	164,228	97,127	67,101	1,110,222	8,491
POSCO FUTURE M CO.,LTD.					
(formerly, POSCO CHEMICAL CO., LTD.)	5,756,556	3,327,874	2,428,682	4,457,201	32,140
POSCO M-TECH	154,927	39,170	115,757	341,410	4,868
POSCO INTERNATIONAL Corporation POSCO MOBILITY SOLUTION	12,565,027 1,036,342	7,170,143 448,319	5,394,884 588,023	28,536,917 1,432,416	632,519 (24,265)
POSCO-Pilbara LITHIUM SOLUTION	1,000,042	440,010	500,025	1,432,410	(24,200)
Co., Ltd.	898,301	558,449	339,852	4,673	(34,198)
QSONE Co.,Ltd.(*1)	232,848	53,646	179,202	18,044	6,037
(in millions of Won)					
					Net income
Company	Assets	Liabilities	Equity	Sales	(loss)
[Foreign]					
POSCO America Corporation	153,900	7,980	145,920	12,231	16,690
POSCO AUSTRALIA PTY LTD(*2)	1,322,381	133,612	1,188,769	224,985	152,896
POSCO Asia Co., Ltd.	1,130,637	862,642	267,995	83,539	16,275
POSCO-CTPC Co., Ltd.	113,805	59,166	54,639	250,167	1,093
POSCO (Zhangjiagang) Stainless Steel Co.,Ltd.	936,933	459,269	477,664	3,359,087	(169,873)
POSCO (Thailand) Company Limited	185,280	82,456	102,824	440,532	(3,621)
Qingdao Pohang Stainless Steel Co., Ltd.	128,820	23,453	105,367	296,883	(13,362)
POSCO (Suzhou) Automotive					
Processing Center Co., Ltd.	371,734	198,451	173,283	729,700	6,364
POSCO-China Holding Corp.	986,501	515,610	470,891	31,329	(22,326)
POSCO JAPAN Co., Ltd.	201,184	5,300	195,884	16,453	3,705
POSCO-India Pune Processing Center. Pvt. Ltd.	222,439	175,594	46,845	436,248	1,576
POSCO Japan PC CO.,LTD	335,780	254,557	81,223	623,375	9,079
POSCO-CFPC Co., Ltd.	296,489	229,961	66,528	843,934	1,900
POSCO MPPC S.A. de C.V.	521,303	415,819	105,484	934,346	(278)
POSCO-VIETNAM Co., Ltd.	309,476	299,054	10,422	737,530	(5,594)
POSCO MEXICO S.A. DE C.V.	726,121	500,597	225,524	846,600	(8,530)
POSCO Thainox Public Company Limited	433,638	100,506	333,132	551,000	(4,170)
POSCO Center Beijing	427,898	246,190	181,708	37,028	5,623
POSCO COATED STEEL (THAILAND) CO., LTD.	307,619	220,259	87,360	386,992	1,459
POSCO INTERNATIONAL AMARA Co., Ltd.	306,105	400,124	(94,019)	33,288	(21,723)
POSCO VST CO., LTD.	251,525	196,382	55,143	547,889	(36,723)
POSCO Maharashtra Steel Private Limited	1,319,232	791,431	527,801	1,763,374	58,669
POSCO INDIA PROCESSING CENTER PRIVATE					
LIMITED	344,678	251,870	92,808	896,860	13,268
POSCO Vietnam Processing Center					
Joint Stock Company	238,694	127,038	111,656	577,064	7,003
POSCO(Liaoning) Automotive	00.400	10.050	50.000	000 504	0.710
Processing Center Co., Ltd.	99,186	48,858	50,328	229,524	3,718
POSCO YAMATO VINA STEEL JOINT STOCK	404 406	107.007	207 400	205 261	0.000
COMPANY PT. KRAKATAU POSCO ENERGY	434,496	127,087	307,409	395,261	8,993
	263,986	94,202	169,784	34,158	13,895
POSCO INTERNATIONAL AMERICA CORP.	629,533	473,572	155,961	2,282,133	29,445
POSCO INTERNATIONAL Deutschland GMBH POSCO INTERNATIONAL JAPAN CORP.	400,762	384,113	16,649	946,974	3,413
PUSCO INTERNATIONAL IAPAN CORP		/// 065	150,978	2,939,318	27,022
	895,043	744,065			
POSCO INTERNATIONAL SINGAPORE PTE. LTD.	294,527	280,090	14,437	3,025,822	7,452

(in millions of Won)

Company	Assets	Liabilities	Equity	Sales	Net income (loss)
[Foreign]					
POSCO ASSAN TST STEEL INDUSTRY Inc	471,071	456,913	14,158	416,096	(73,032)
POSCO AMERICA ALABAMA PROCESSING					
CENTER CO., LTD.	152,896	135,087	17,809	251,884	(3,025)
POSCO Argentina S.A.U.	1,658,879	542,525	1,116,354	-	(73,807)
POSCO-MKPC SDN BHD	132,043	59,916	72,127	244,754	8,770
Senex Holdings PTY LTD(*2)	1,623,493	802,259	821,234	246,493	14,239

(*1) The sales and net income occurred after the inclusion as a subsidiary.

(*2) Summarized financial information of POSCO AUSTRALIA PTY LTD and Senex Holdings PTY LTD, a subsidiary of POSCO HOLDINGS INC., are based on its consolidated financial information. The financial information of the other entities is based on separate financial statements of each entity.

2) December 31, 2022

(in millions of Won)

Company	Assets	Liabilities	Equity	Sales	Net income (loss)
Domestic]					
POSCO	44,644,744	12,148,120	32,496,624	35,152,358	503,076
POSCO Eco & Challenge Co., Ltd.					
(formerly, POSCO ENGINEERING &	7 005 745		0.054.704		100.055
CONSTRUCTION CO., LTD.)	7,065,745	3,814,041	3,251,704	8,124,502	130,65
POSCO STEELEON Co., Ltd. POSCO DX	531,890	201,053	330,837	1,181,625	17,480
(formerly, POSCO ICT)	795,602	388,531	407,071	1,108,702	43,463
eNtoB Corporation	192,658	128,012	64,646	988,417	10,548
POSCO FUTURE M CO.,LTD.	,	,	,		
(formerly, POSCO CHEMICAL CO., LTD.)	4,276,626	1,849,501	2,427,125	3,041,287	114,853
POSCO M-TECH	147,012	32,170	114,842	342,176	5,176
POSCO ENERGY CO., LTD.	4,298,692	2,638,807	1,659,885	3,605,965	190,70
POSCO INTERNATIONAL Corporation	9,186,552	5,837,152	3,349,400	32,566,135	289,472
POSCO MOBILITY SOLUTION	966,837	350,253	616,584	1,420,467	19,246
POSCO-Pilbara LITHIUM SOLUTION					
Co., Ltd.	404,338	30,418	373,920	12,566	(6,737
(in millions of Won)					Net income
Company	Assets	Liabilities	Equity	Sales	(loss)
Foreign]			• • •		
POSCO America Corporation	135,502	8,296	127,206	11,380	20,379
POSCO AUSTRALIA PTY LTD(*1)	1,144,012	145,830	998,182	265,615	216,924
POSCO Asia Co., Ltd.	1,544,639	1,291,250	253,389	41,863	9,904
POSCO-CTPC Co., Ltd.	130.536				=1==
		/6/30	53 806	266,938	65
POSCO (Zhangijagang) Stainless Steel Co. Ltd		76,730 518 106	53,806 646 503	266,938 4 208 952	
	1,164,609	518,106	646,503	4,208,952	(77,395
POSCO (Thailand) Company Limited	1,164,609 166,117	518,106 62,382	646,503 103,735	4,208,952 504,806	(77,395 3,662
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd.	1,164,609	518,106	646,503	4,208,952	(77,395 3,662
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive	1,164,609 166,117 132,871	518,106 62,382 13,999	646,503 103,735 118,872	4,208,952 504,806 380,792	(77,395 3,662 (13,525
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd.	1,164,609 166,117 132,871 455,662	518,106 62,382 13,999 288,070	646,503 103,735 118,872 167,592	4,208,952 504,806 380,792 959,115	(77,395 3,662 (13,525 514
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp.	1,164,609 166,117 132,871 455,662 1,094,494	518,106 62,382 13,999 288,070 600,058	646,503 103,735 118,872 167,592 494,436	4,208,952 504,806 380,792 959,115 38,601	(77,395 3,662 (13,525 514 (34,522
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd.	1,164,609 166,117 132,871 455,662 1,094,494 223,947	518,106 62,382 13,999 288,070 600,058 27,259	646,503 103,735 118,872 167,592 494,436 196,688	4,208,952 504,806 380,792 959,115 38,601 269,717	(77,395 3,662 (13,525 514 (34,522 24,344
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd. POSCO-India Pune Processing Center. Pvt. Ltd.	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519	518,106 62,382 13,999 288,070 600,058 27,259 116,774	646,503 103,735 118,872 167,592 494,436 196,688 44,745	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504	(77,395 3,66) (13,525 514 (34,522 24,344 7,354
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO Japan PC CO.,LTD	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519 386,553	518,106 62,382 13,999 288,070 600,058 27,259 116,774 311,011	646,503 103,735 118,872 167,592 494,436 196,688 44,745 75,542	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504 635,651	(77,395 3,66) (13,525 514 (34,522 24,344 7,354 8,860
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO Japan PC CO.,LTD POSCO-CFPC Co., Ltd.	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519 386,553 328,843	518,106 62,382 13,999 288,070 600,058 27,259 116,774 311,011 263,965	646,503 103,735 118,872 167,592 494,436 196,688 44,745 75,542 64,878	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504 635,651 1,124,718	(77,395 3,662 (13,525 514 (34,522 24,344 7,354 8,866 14
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO Japan PC CO.,LTD POSCO-CFPC Co., Ltd. POSCO MPPC S.A. de C.V.	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519 386,553 328,843 546,916	518,106 62,382 13,999 288,070 600,058 27,259 116,774 311,011 263,965 442,970	646,503 103,735 118,872 167,592 494,436 196,688 44,745 75,542 64,878 103,946	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504 635,651 1,124,718 881,066	(77,395 3,662 (13,525 (34,522 24,344 7,35 8,866 14 8,866
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO-GFPC Co., Ltd. POSCO MPPC S.A. de C.V. POSCO-VIETNAM Co., Ltd.	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519 386,553 328,843 546,916 321,430	518,106 62,382 13,999 288,070 600,058 27,259 116,774 311,011 263,965 442,970 305,758	646,503 103,735 118,872 167,592 494,436 196,688 44,745 75,542 64,878 103,946 15,672	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504 635,651 1,124,718 881,066 885,599	(77,395 3,662 (13,525 (13,525 (34,522 24,344 7,354 8,866 14 8,866 (39,726
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO Japan PC CO.,LTD POSCO-CFPC Co., Ltd. POSCO MPPC S.A. de C.V. POSCO-VIETNAM Co., Ltd. POSCO MEXICO S.A. DE C.V.	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519 386,553 328,843 546,916 321,430 726,081	518,106 62,382 13,999 288,070 600,058 27,259 116,774 311,011 263,965 442,970 305,758 496,146	646,503 103,735 118,872 167,592 494,436 196,688 44,745 75,542 64,878 103,946	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504 635,651 1,124,718 881,066	(77,395 3,662 (13,525 514 (34,522 24,344 7,354 8,866 14 8,366 (39,726 (8,832
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO Japan PC CO.,LTD POSCO-CFPC Co., Ltd. POSCO MPPC S.A. de C.V. POSCO-VIETNAM Co., Ltd. POSCO MEXICO S.A. DE C.V.	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519 386,553 328,843 546,916 321,430	518,106 62,382 13,999 288,070 600,058 27,259 116,774 311,011 263,965 442,970 305,758	646,503 103,735 118,872 167,592 494,436 196,688 44,745 75,542 64,878 103,946 15,672	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504 635,651 1,124,718 881,066 885,599	(77,395 3,66 (13,525 (34,522 24,34 7,35 8,86 1 8,86 (39,726 (8,832
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO Japan PC CO.,LTD POSCO-CFPC Co., Ltd. POSCO MPPC S.A. de C.V. POSCO-VIETNAM Co., Ltd. POSCO MEXICO S.A. DE C.V. POSCO Thainox Public Company Limited	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519 386,553 328,843 546,916 321,430 726,081	518,106 62,382 13,999 288,070 600,058 27,259 116,774 311,011 263,965 442,970 305,758 496,146	646,503 103,735 118,872 167,592 494,436 196,688 44,745 75,542 64,878 103,946 15,672 229,935	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504 635,651 1,124,718 881,066 885,599 785,821	(77,395 3,66 (13,525 51) (34,522 24,34 7,35 8,86 1 8,36 (39,726 (8,832 7,41
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO Japan PC CO.,LTD POSCO-CFPC Co., Ltd. POSCO MPPC S.A. de C.V. POSCO-VIETNAM Co., Ltd. POSCO MEXICO S.A. DE C.V.	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519 386,553 328,843 546,916 321,430 726,081 419,425	518,106 62,382 13,999 288,070 600,058 27,259 116,774 311,011 263,965 442,970 305,758 496,146 83,801	646,503 103,735 118,872 167,592 494,436 196,688 44,745 75,542 64,878 103,946 15,672 229,935 335,624	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504 635,651 1,124,718 881,066 885,599 785,821 900,653	(77,395 3,66) (13,525 24,34 7,35 8,86) 14 (39,726 (8,832 7,41 8,66)
Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO-India Pune Processing Center. Pvt. Ltd. POSCO-GFPC Co., Ltd. POSCO-CFPC Co., Ltd. POSCO MPPC S.A. de C.V. POSCO VIETNAM Co., Ltd. POSCO MEXICO S.A. DE C.V. POSCO Thainox Public Company Limited POSCO Center Beijing	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519 386,553 328,843 546,916 321,430 726,081 419,425 440,329	518,106 62,382 13,999 288,070 600,058 27,259 116,774 311,011 263,965 442,970 305,758 496,146 83,801 263,555	646,503 103,735 118,872 167,592 494,436 196,688 44,745 75,542 64,878 103,946 15,672 229,935 335,624 176,774	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504 635,651 1,124,718 881,066 885,599 785,821 900,653 44,183	665 (77,395 3,662 (13,525 514 (34,522 24,344 7,354 8,866 (39,726 (8,832 7,411 8,666 (1,305 (12,626
POSCO (Thailand) Company Limited Qingdao Pohang Stainless Steel Co., Ltd. POSCO (Suzhou) Automotive Processing Center Co., Ltd. POSCO-China Holding Corp. POSCO JAPAN Co., Ltd. POSCO JAPAN Co., Ltd. POSCO JAPAN PC CO.,LTD POSCO-CFPC Co., Ltd. POSCO MPC S.A. de C.V. POSCO-VIETNAM Co., Ltd. POSCO MEXICO S.A. DE C.V. POSCO MEXICO S.A. DE C.V. POSCO Center Beijing POSCO COATED STEEL (THAILAND) CO., LTD.	1,164,609 166,117 132,871 455,662 1,094,494 223,947 161,519 386,553 328,843 546,916 321,430 726,081 419,425 440,329 319,379	518,106 62,382 13,999 288,070 600,058 27,259 116,774 311,011 263,965 442,970 305,758 496,146 83,801 263,555 235,672	646,503 103,735 118,872 167,592 494,436 196,688 44,745 75,542 64,878 103,946 15,672 229,935 335,624 176,774 83,707	4,208,952 504,806 380,792 959,115 38,601 269,717 521,504 635,651 1,124,718 881,066 885,599 785,821 900,653 44,183 458,059	(77,395 3,662 (13,525 514 (34,522 24,344 7,354 8,866 (39,726 (8,832 7,41 8,666 (1,305

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

Company	Assets	Liabilities	Equity	Sales	Net income (loss)
Foreign]					
POSCO INDIA PROCESSING CENTER PRIVATE					
LIMITED	334,723	255,895	78,828	916,943	14,296
POSCO Vietnam Processing Center					
Joint Stock Company	260,014	168,843	91,171	783,750	4,930
POSCO(Liaoning) Automotive					
Processing Center Co., Ltd.	112,033	64,894	47,139	276,169	2,682
POSCO YAMATO VINA STEEL JOINT STOCK					
COMPANY	446,881	153,467	293,414	461,530	355
PT. KRAKATAU POSCO ENERGY	282,988	114,371	168,617	34,599	16,634
POSCO INTERNATIONAL AMERICA CORP.	536,696	411,978	124,718	2,658,298	31,244
POSCO INTERNATIONAL Deutschland GMBH	403,283	390,779	12,504	979,225	5,398
POSCO INTERNATIONAL JAPAN CORP.	928,656	798,617	130,039	2,921,851	26,410
POSCO INTERNATIONAL SINGAPORE PTE. LTD.	257,492	250,532	6,960	4,955,151	(2,985)
POSCO INTERNATIONAL ITALIA S.R.L.	221,860	207,405	14,455	930,000	3,539
POSCO INTERNATIONAL (CHINA) CO., LTD	61,065	34,772	26,293	255,863	2,327
PT. KRAKATAU POSCO	3,973,061	3,321,182	651,879	3,006,300	137,787
POSCO INTERNATIONAL MALAYSIA SDN BHD	4,742	1,739	3,003	243,764	248
POSCO ASSAN TST STEEL INDUSTRY Inc	574,280	489,503	84,777	880,462	48,827
POSCO AMERICA ALABAMA PROCESSING					
CENTER CO., LTD.	158,116	137,677	20,439	238,131	(1,638)
POSCO Argentina S.A.U.	766,020	15,395	750,625	59	(669)
POSCO-MKPC SDN BHD	153,081	85,891	67,190	244,967	14,472
POSCO INTERNATIONAL VIETNAM CO., LTD.	14,283	6,792	7,491	280,690	788
POSCO INTERNATIONAL SHANGHAI CO., LTD.	49,752	39,951	9,801	228,844	(525)
Senex Holdings PTY LTD(*1)	1,386,504	604,124	782,380	186,794	24,621

(*1) Summarized financial information of POSCO AUSTRALIA PTY LTD and Senex Holdings PTY LTD, a subsidiary of POSCO HOLDINGS INC., are based on its consolidated financial information. The financial information of the other entities is based on separate financial statements of each entity.

(d) Details of non-controlling interests by entity as of and for the years ended December 31, 2023 and 2022 are as follows:

1) December 31, 2023

(in millions of Won)	POSCO INTERNATIONAL Corporation	PT. KRAKATAU POSCO	POSCO FUTURE M CO., LTD	POSCO Eco & Challenge CO., LTD.	POSCO DX CO., LTD.	Others	Total
Current assets	5,717,154	810,988	2,049,879	5,577,527	561,725	10,280,517	24,997,790
Non-current assets	5,787,515	2,664,861	3,056,029	2,019,351	184,667	8,086,165	21,798,588
Current liabilities	(4,379,238)	(1,318,286)	(1,221,829)	(3,866,258)	(328,558)	(8,445,386)	(19,559,555)
Non-current liabilities	(2,938,204)	(1,429,590)	(2,228,191)	(522,622)	14,841	(2,680,943)	(9,784,709)
Equity	4,187,227	727,973	1,655,888	3,207,998	432,675	7,240,353	17,452,114
Non-controlling interests	1,121,823	363,987	666,420	1,514,203	149,812	2,600,462	6,416,707
Sales	28,542,084	3,130,551	4,457,201	9,536,262	1,439,715	29,630,513	76,736,326
Profit (loss) for the period	528,592	72,609	63,024	188,436	88,104	(400,634)	540, 131
Profit (loss) attributable							
to non-controlling interests	141,618	36,304	25,365	88,943	30,506	(143,784)	178,952
Cash flows from operating activities	258,910	182,199	(193,324)	(168, 120)	7,257	95,392	182,314
Cash flows from investing activities	53,876	(13,992)	(389,075)	192,970	6,832	(334,276)	(483,665)
Cash flows from financing activities							
(before dividends to non-controlling interest)	(324,134)	(154,212)	577,158	63,164	(319)	330,622	492,279
Dividends to non-controlling interest	(47,765)		(9,344)	(9,867)	(3,941)	(19,963)	(90,880)
Effect of exchange rate fluctuation							
on cash held	651	46	(1)	260	(63)	864	1,757
Net increase (decrease)							
in cash and cash equivalents	(58,462)	14,041	(14,586)	78,407	9,766	72,639	101,805

2) December 31, 2022

(in millions of Won)	POSCO INTERNATIONAL Corporation	PT. KRAKATAU POSCO	POSCO FUTURE M CO., LTD	POSCO Eco & Challenge CO., LTD.	POSCO DX CO., LTD.	Others	Total
Current assets	5,289,899	1,125,123	1,832,804	4,732,474	585,766	10,305,149	23,871,215
Non-current assets	3,470,861	3,062,378	2,261,649	2,012,038	226,598	7,264,540	18,298,064
Current liabilities	(3,809,495)	(2,486,616)	(920,656)	(3,125,795)	(419,452)	(8,680,121)	(19,442,135)
Non-current liabilities	(2,203,923)	(834,456)	(938,447)	(642,951)	(4,431)	(2,094,774)	(6,718,982)
Equity	2,747,342	866,429	2,235,350	2,975,766	388,481	6,794,794	16,008,162
Non-controlling interests	1,018,764	433,214	899,416	1,404,588	134,484	2,480,625	6,371,091
Sales	32,532,465	3,006,300	3,041,287	8,123,147	1,101,037	34,933,760	82,737,996
Profit for the period	323,749	140,967	114,365	148,588	42,832	269,926	1,040,427
Profit attributable							
to non-controlling interests	120,052	70,483	46,016	70,135	14,828	106,091	427,605
Cash flows from operating activities	480,927	342,484	(27,009)	(54,506)	(594)	68,906	810,208
Cash flows from investing activities	(389,092)	(372,345)	(26,492)	160,750	3,973	(619,072)	(1,242,278)
Cash flows from financing activities							
(before dividends to non-controlling interest)	136,954	(115,046)	107,266	154,946	(561)	614,001	897,560
Dividends to non-controlling interest	(36,585)	-	(9,360)	(14,800)	(2,628)	(16,921)	(80,294)
Effect of exchange rate fluctuation							
on cash held	853	12,690	(2,469)	(450)	(35)	(1,412)	9,177
Net increase (decrease)	400.057	(100.017)	44.000	0.15 0.10	455	45 500	004.070
in cash and cash equivalents	193,057	(132,217)	41,936	245,940	155	45,502	394,373

- (e) Details of associates and joint ventures
 - 1) Associates

Details of associates as of December 31, 2023 and 2022 are as follows:

		Ownersh		
Investee	Category of business	2023	2022	Region
Domestic]				
New Songdo International City Development, LLC	Real estate rental	29.90	29.90	Incheon
Gale International Korea, LLC	Real estate rental	29.90	29.90	Incheon
SNNC	Raw material manufacturing and sales	49.00	49.00	Gwangyar
KONES, Corp.	Technical service	27.41	26.72	Gyeongji
CHUNGJU ENTERPRISE CITY				
DEVELOPMENT Co.,Ltd	Real estate development	29.53	29.53	Chungju
DAEHO GLOBAL MANAGEMENT CO., LTD.	Investment advisory service	35.82	35.82	Pohang
Mokpo Deayang Industrial Corporation(*3)	Real estate development and rental	-	27.40	Mokpo
Gunggi Green Energy(*1)	Electricity generation	19.00	19.00	Hwaseor
Pohang Special Welding Co.,Ltd.	Welding material and tools manufacturing and sales	50.00	50.00	Pohang
EQP POSCO Global NO1 Natural Resources				
Private Equity Fund	Investment in new technologies	27.23	27.23	Seoul
C Chemicals CORP.(*1)	Machinery manufacturing	18.76	18.76	Hwaseor
POSTECH Social Enterprise Fund(*3)	Investment in new technologies	-	9.17	Seoul
QSONE Co., Ltd. (*5)	Real estate rental	-	50.00	Seoul
Chun-cheon Energy Co., Ltd	Electricity generation	49.10	49.10	Chunched
Noeul Green Energy(*1)	Electricity generation	10.00	10.00	Seoul
Posco-IDV Growth Ladder IP Fund(*1)	Investment in new technologies	17.86	17.86	Seoul
DaeSung SnM Co., Ltd.(*1)	-	17.5.4	47.54	
(formerly, Daesung Steel)	Steel sales	17.54	17.54	Busan
Pohang E&E Co., LTD	Investment in waste energy	30.00	30.00	Pohang
POSCO Energy Valley Fund	Investment in new technologies	22.08	20.00	Pohang
Hyundai Invest Guggenheim CLO	v			
Qualified Private Special Asset Trust No.2(*4)	Investment in new technologies	-	38.57	Seoul
Posco Agri-Food Export Fund	Investment in new technologies	30.00	30.00	Seoul
Posco Culture Contents Fund	Investment in new technologies	31.67	31.67	Seoul
PCC Amberstone Private Equity Fund 1(*1)	Investment in new technologies	8.80	8.80	Seoul
UITrans LRT Co., Ltd.	Transporting	38.19	38.19	Seoul
POSCO Advanced Technical Staff Fund(*1)	Investment in new technologies	15.87	15.86	Seoul
POSCO 4th Industrial Revolution Fund(*1)	Investment in new technologies	19.05	19.05	Seoul
Pureun Tongyeong Enviro Co., Ltd.	Sewerage treatment	20.40	20.40	Tongyeor
Pure Gimpo Co., Ltd.	Construction	28.79	28.79	Gimpo
Posgreen Co., Ltd.(*1)	Lime and plaster manufacturing	19.00	19.00	Gwangya
Clean Iksan Co., Ltd.	Construction	23.50	23.50	lksan
Innovalley Co., Ltd.	Real estate development	29.48	28.77	Yongin
BLUE OCEAN Private Equity Fund	Private equity financial	27.52	27.52	Seoul
Pocheon-Hwado Highway Corp.	Investment in Expressway	27.89	27.64	Incheon
INNOPOLIS Job Creation Fund II(*1)	Investment in new technologies	6.13	6.13	Seoul
Samcheok Blue Power Co.,Ltd.	Generation of electricity	34.00	34.00	Samcheo
NKOTECH. INC.(*1)	Electricity generation and sales	10.00	10.00	Seoul
PCC Social Enterprise Fund II (*1)	Investment in new technologies business	16.67	16.67	Seoul
PCC Amberstone Private Equity Fund II (*4)	Private equity trust	-	19.91	Seoul
PCC-Conar No.1 Fund(*1)	Investment in new technologies business	15.49	15.34	Pohang
HYOCHUN Co., Ltd(*1)	Screen door operation and other	18.00	18.00	Seoul
BKC-PCC 1st Fund(*1)	Investment in new technologies business	18.18	18.18	Pohang
2019 PCC Materials and Parts Fund(*3)	Investment in new technologies business	-	8.70	Pohang
PCC-Woori LP secondary Fund(*1)	Investment in new technologies business	18.85	18.85	Pohang
CURO CO.,LTD.(*4)	Manufacturing, construction	10.00	0.53	Ulsan
Link City PFV Inc.	Contruction, housing construction and sales	44.00	44.00	Uijeongb
Enk City PPV Inc. BNH-POSCO Bio Healthcare Fund(*1)	Investment in new technologies business	18.14	44.00 18.14	Pohang
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POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

		Ownersh	ip (%)	
Investee	Category of business	2023	2022	Region
[Domestic]				
Energy Innovation Fund I(*1)	Investment in new technologies business	10.11	10.11	Pohang
Consus PS development Professional Private				
Real Estate Fund	Real estate development	50.00	50.00	Seoul
POSTECH Holdings 4th Fund	Private Investment Association	40.00	40.00	Pohang
SNU STH IP Fund	Private Investment Association	33.33	33.33	Seoul
PCC-BM Project Fund 2(*1)	Investment in new technologies business	13.70	13.70	Pohang
G&G Technology Innovation Fund No.1(*1)	Investment in new technologies business	13.97	13.97	Seongnam
NPX-PCC Edutech Fund(*3)	Investment in new technologies business	-	19.96	Pohang
C&-PCC Fund(*3)	Investment in new technologies business	-	0.68	Pohang
2020 POSCO-MOORIM Bio New Technology Fund(*3)	Investment in new technologies business	-	5.00	Pohang
PCC-KAI Secondary I Fund(*1)	Investment in new technologies business	19.12	19.12	Seoul
2021 PCC Bio New Technology Fund(*1)	Investment in new technologies	5.45	5.45	Pohang
Consus BG Private Real Estate Fund No.2	Real estate development	50.00	50.00	Seoul
Consus OS Private Real Estate Fund(*3)	Real estate development	-	50.00	Seoul
Consus NewDeal Infra Development Specialized				
Private Special Asset Investment Trust 1	Investment Association	40.00	40.00	Seoul
Hybrid ESG Secondary Venture No.1(*1)	Investment Association	18.27	18.27	Pohang
PCC-Bailey Project Fund(*1)	Investment in new technologies business	7.27	7.27	Pohang
CR Inotech Co., Ltd.(*1)	Manufacturing	19.00	19.00	Gwangyang
Posco JK Solid Solution Co., Itd.	Material manufacturing for rechargeable battery	40.00	40.00	Yangsan
PCC-Xinova PRE-IPO Fund(*1)	Investment in new technologies business	9.09	9.09	Pohang
Erae Ams Co.,Ltd.(*4)	Automotive parts manufacturing	-	16.66	Daegu
Consus OS Private Real Estate Fund 2(*2)	Real estate development	50.00	-	Seoul

		Ownership (%)		
Investee	Category of business	2023	2022	Region
[Foreign]				
POSCHROME (PROPRIETARY) LIMITED	Raw material manufacturing and sales	50.00	50.00	South Africa
CAML RESOURCES PTY LTD	Raw material manufacturing and sales	33.34	33.34	Australia
Nickel Mining Company SAS	Raw material manufacturing and sales	49.00	49.00	New Caledonia
PT. Wampu Electric Power	Construction and civil engineering	20.00	20.00	Indonesia
POSK(Pinghu) Steel Processing Center Co., Ltd.	Steel processing and sales	20.00	20.00	China
PT.INDONESIA POS CHEMTECH CHOSUN Ref	Refractory manufacturing and sales	30.19	30.19	Indonesia
NS-Thainox Auto Co., Ltd.	Stainless sales and transporting	49.00	49.00	Thailand
PT. Tanggamus Electric Power(*1)	Construction and civil engineering	17.50	17.50	Indonesia
LLP POSUK Titanium	Titanium manufacturing and sales	35.30	35.30	Kazakhstan
	•		24.00	India
IMFA ALLOYS FINLEASE LTD	Raw material manufacturing and sales	24.00		
KRAKATAU POS-CHEM DONG-SUH CHEMICAL(*1)	Chemical by-product manufacturing and sales	19.00	19.00	Indonesia
9404-5515 Quebec Inc.	Investments management	25.85	25.85	Canada
Hamparan Mulya	Resource development	45.00	45.00	Indonesia
POS-SEAHSTEELWIRE(TIANJIN)CO.,Ltd.	Steel manufacturing and sales	25.00	25.00	China
Eureka Moly LLC	Raw material manufacturing and sales	20.00	20.00	USA
KIRIN VIETNAM CO., LTD(*1)	Panel manufacturing	19.00	19.00	Vietnam
POSCO SeAH Steel Wire(Nantong) Co., Ltd.	Steel processing and sales	25.00	25.00	China
POS-SeAH Steel Wire (Thailand) Co., Ltd.	Steel manufacturing and sales	25.00	25.00	Thailand
Jupiter Mines Limited(*1)	Resource development	6.89	6.89	Australia
SAMHWAN VINA CO., LTD(*1)	Steel manufacturing and sales	17.26	19.00	Vietnam
Saudi-Korean Company for Maintenance				
Properties Management LLC(*1)	Building management	19.00	19.00	Saudi Arabia
NCR LLC	Coal sales	22.05	22.05	Canada
AMCI (WA) PTY LTD	Iron ore sales & mine development	49.00	49.00	Australia
SHANGHAI LANSHENG DAEWOO CORP.	Trading	49.00	49.00	China
SHANGHAI WAIGAOQIAO FREE TRADE ZONE	•			
LANSHENG DAEWOO IN'L TRADING CO., LTD.	Trading	49.00	49.00	China
General Medicines Company Ltd.	Medicine manufacturing and sales	33.00	33.00	Sudan
KOREA LNG LTD.	Gas production and sales	20.00	20.00	England
AES-VCM Mong Duong Power Company Limited	Electricity generation	30.00	30.00	Vietnam
South-East Asia Gas Pipeline Company Ltd.	Pipeline construction and management	25.04	25.04	Myanmar
GLOBAL KOMSCO Daewoo LLC	Cotton celluloid manufacturing and sales	35.00	35.00	Uzbekistan
POSCO-Poggenamp Electrical Steel Pvt. Ltd.	Steel processing and sales	26.00	26.00	India
Qingdao Pohang DGENX Stainless	otool processing and sales	20.00	20.00	maia
SteelPipeCo., Ltd	Exhaust meter manufacturing	40.00	40.00	China
SHINPOONG DAEWOO PHARMA VIETNAM	Exhaust meter manufacturing	40.00	40.00	Grinia
CO.,LTD(*1)	Medicine production	3.42	3.42	Vietnam
ZHEJIANG HUAYOU-POSCO ESM CO., LTD	Anode material Production	40.00	40.00	China
MONG DUONG FINANCE HOLDINGS B.V.	Financial Holdings	30.00	30.00	Netherlands
FQM Australia Holdings Pty Ltd	Non-ferrous metal Mining	24.32	30.00	Australia
Qingdao ZhongShou New Energy Technology				
Co.,Ltd(*1)	Artificial Graphite manufacturing	13.00	13.01	China
Black Rock Mining LTD(*1)	Mining	11.72	12.90	Australia
Inner Mongolia Sinuo New Material Technology				
Co.,Ltd(*1)	Artificial Graphite manufacturing	12.85	12.85	China
ZHANGJIAGANG XIAO-SHA COIL SERVICE				
CENTER CO., LTD(*1)	Steel processing and sales	17.50	17.50	China
TMK Gulf International Pipe Industry L.L.C.(*4)	Manufacturing	-	6.77	Oman

- (*1) The Company has determined that it has significant influence even though the Company's percentage of ownership is less than 20% considering the composition of board of directors.
- (*2) During the year ended December 31, 2023, the entity was newly included as an associates.

- (*3) During the year ended December 31, 2023 the entities were excluded from associates due to liquidation.
- (*4) During the year ended December 31, 2023, the entities were excluded from associates due to sale of interest, etc.
- (*5) During the year ended December 31, 2023, the entities were excluded from associates and classified as a subsidiary due to the whole acquisition of external shareholders.

2) Joint ventures

Details of joint ventures as of December 31, 2023 and 2022 are as follows:

Investee		Ownership (%)		
	Category of business	2023	2022	Region
[Domestic]				
POSCO MC MATERIALS				
(formerly, POSCO MITSUBISHI CARBON				
TECHNOLOGY)	Steel processing and sales	60.00	60.00	Gwangyang
POSCO-KB Shipbuilding Restructuring Fund	Investment in new technologies	18.75	18.75	Seoul
POSCO-NSC Venture Fund	Investment in new technologies	16.67	16.67	Seoul
PoscoPlutus Project 3rd Project fund	Investment in new technologies	5.96	5.96	Seoul
PCC Bio 2nd Fund	Investment in new technologies	19.72	19.72	Seoul
Union PCC Portfolio Fund	Investment in new technologies	14.12	14.12	Seoul
Eco Energy Solution Co., Itd.	Service	50.00	50.00	Seoul
[Foreign]				
KOBRASCO	Steel materials manufacturing and sales	50.00	50.00	Brazil
CSP - Compania Siderurgica do Pecem(*1)	Steel manufacturing and sales	-	20.00	Brazil
BX STEEL POSCO Cold Rolled Sheet Co., Ltd.	Steel processing and sales	25.00	25.00	China
POSCO-SAMSUNG-Slovakia Processing Center	Steel processing and sales	30.00	30.00	Slovakia
YULCHON MEXICO S.A. DE C.V.	Tube for automobile manufacturing	11.85	11.85	Mexico
Hyunson Engineering & Construction HYENCO	Construction	4.89	4.89	Algeria
POSCO E&C Saudi Arabia	Civil engineering and construction	40.00	40.00	Saudi Arabia
Pos-Austem Suzhou Automotive Co., Ltd	Automotive parts manufacturing	19.90	19.90	China
POS-InfraAuto (Suzhou) Co., Ltd	Automotive parts manufacturing	16.20	16.20	China
POS-AUSTEM YANTAI AUTOMOTIVE CO., LTD	Automotive parts manufacturing	11.10	11.10	China
POS-AUSTEM WUHAN AUTOMOTIVE CO., LTD	Automotive parts manufacturing	7.43	7.43	China
DMSA/AMSA	Energy & resource development	3.89	3.89	Madagascar
Roy Hill Holdings Pty Ltd	Energy & resource development	12.50	12.50	Australia
POSCO-NPS Niobium LLC	Mine development	50.00	50.00	USA
HBIS-POSCO Automotive Steel Co., Ltd	Steel manufacturing and sales	50.00	50.00	China
PT NICOLE METAL INDUSTRY(*2)	Nickel smelting	49.00	-	Indonesia

- (*1) During the year ended December 31, 2023, the entity was excluded from joint ventures due to sales of interest.
- (*2) During the year ended December 31, 2023, the entity was newly included as a joint venture.

(f) New subsidiaries

Consolidated subsidiaries acquired or newly established during the year ended December 31, 2023 are as follows:

Company	Date of addition	Ownership (%)	Reason
QSONE Co.,Ltd.	March 2023	100.00	Reclassification from associate
POSCO PS Tech	April 2023	100.00	New establishment
POSCO PR Tech	April 2023	100.00	New establishment
POSCO PH Solution	April 2023	100.00	New establishment
POSCO GYS Tech	April 2023	100.00	New establishment
POSCO GYR Tech	April 2023	100.00	New establishment
POSCO GY Solution	April 2023	100.00	New establishment
PT AGPA REFINERY COMPLEX	May 2023	100.00	New establishment
Port Hedland Green Steel Pty Ltd	June 2023	100.00	New establishment
POSCO MOBILITY SOLUTION			
POLAND Sp. z o.o.,	July 2023	100.00	New establishment
PCC Facilities Component Fund	July 2023	60.00	New establishment
PT POSCO INTERNATIONAL ENP	September 2023	100.00	New establishment
POSCO INTERNATIONAL E&P USA Inc.	October 2023	100.00	New establishment
POSCO FLOW CANADA INC.	November 2023	100.00	New establishment
POSCO FLOW (Shanghai) Co.,Ltd	December 2023	100.00	New establishment
POSCO HOLDINGS CVC 2nd Fund	December 2023	100.00	New establishment
International Energy Expansion			
for Technology Innovation Fund	December 2023	60.00	New establishment

(g) Loss of control

Subsidiaries for which the Company has lost control during the year ended December 31, 2023 are as follows:

Company	Date of exclusion	Reason
POSCO ENERGY CO., LTD.	January 2023	Merged into POSCO INTERNATIONAL Corporation(*1)
POS-CD PTY LTD	January 2023	Liquidation
POSCO ICT BRASIL	August 2023	Divestiture
PGSF, L.P.	September 2023	Liquidation
Future Creation Fund Postech Early Stage account	December 2023	Liquidation
Songdo Posco family Housing	December 2023	Liquidation

(*1) As a result of the merger transaction, the ownership of the Company in POSCO INTERNATIONAL Corporation increased from 62.92% to 73.21%.

2. Statement of Compliance

The consolidated financial statements have been prepared in accordance with Korean International Financial Reporting Standards ("K-IFRS"), as prescribed in *the Act on External Audit of Stock Companies, etc.* in the Republic of Korea.

The consolidated financial statements were authorized for issue by the Board of Directors on January 31, 2024 and will be submitted for approval at the shareholders' meeting to be held on March 21, 2024.

Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis, except for the following material items in the statement of financial position, as described in the accounting policy below.

- (a) Derivatives instruments measured at fair value
- (b) Financial instruments measured at fair value through profit or loss
- (c) Financial instruments measured at fair value through other comprehensive income
- (d) Defined benefit liabilities measured at the present value of the defined benefit obligation less the fair value of the plan assets

Functional and presentation currency

The financial statements of POSCO HOLDINGS INC. and subsidiaries are prepared in functional currency of the respective operation. These consolidated financial statements are presented in Korean Won, which is POSCO HOLDINGS INC.'s functional currency which is the currency of the primary economic environment in which POSCO HOLDINGS INC. operates.

Use of estimates and judgments

The preparation of the consolidated financial statements in conformity with K-IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period prospectively.

(a) Judgments

Information about critical judgments in applying accounting policies that have the most significant effect on the amounts recognized in the consolidated financial statements is included in the following notes:

- Note 1 Subsidiaries, associates and joint ventures
- Note 11 Investments in associates and joint ventures
- Note 12 Joint operations

(b) Assumptions and estimation uncertainties

Information about assumptions and estimation uncertainties that have a significant risk of resulting in a material adjustment within the next fiscal year is included in the following notes:

- Note 15 Goodwill and other intangible assets, net
- Note 20 Provisions
- Note 21 Employee benefits

- Note 23 Financial instruments
- Note 30 Revenue contract balances
- Note 36 Income taxes
- Note 39 Commitments and contingencies

(c) Measurement of fair value

The Company's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities. The Company has an established control framework with respect to the measurement of fair values. This includes a valuation team that has overall responsibility for overseeing all significant fair value measurements, including Level 3 fair values, and reports directly to the financial officer.

The valuation team regularly reviews significant unobservable inputs and valuation adjustments. If third party information, such as broker quotes or pricing services, is used to measure fair values, then the valuation team assesses the evidence obtained from the third parties to support the conclusion that such valuations meet the requirements of K-IFRS including the level in the fair value hierarchy in which such valuation techniques should be classified.

Significant valuation issues are reported to the Company's Audit Committee.

When measuring the fair value of an asset or a liability, the Company uses market observable data as far as possible. Fair values are categorized into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows.

- Level 1 unadjusted quoted prices in active markets for identical assets or liabilities.
- Level 2 inputs other than quoted prices included in Level 1 that are observable for the assets or liability, either directly or indirectly.
- Level 3 inputs for the assets or liability that are not based on observable market data.

If the inputs used to measure the fair value of an asset or a liability might be categorized in different levels of the fair value hierarchy, then the fair value measurement is categorized in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement. The Company recognizes transfers between levels of the fair value hierarchy at the end of the reporting period during which the change has occurred.

Information about the assumptions made in measuring fair values is included in the following note:

• Note 23 - Financial instruments

Changes in Accounting Policies

Except for the standards and amendments applied for the first time for the reporting period commenced January 1, 2023 described below, the accounting policies applied by the Company in these consolidated financial statements are the same as those applied by the Company in its consolidated financial statements as of and for the year ended December 31, 2022.

(a) K-IFRS No. 1012 "Income Tax" – Deferred Tax related to Assets and Liabilities arising from a Single Transaction

From January 1, 2023, the Company has applied the amendments related to deferred tax arising from assets and liabilities in a single transaction under K-IFRS No. 1012 "Income Tax". The amendments narrow the scope of the initial recognition exemption to exclude transactions that give rise to equal and offsetting temporary differences. The Company recognized deferred tax assets for lease liabilities and deferred tax liabilities for right-of-use assets, respectively, and there is no impact on the statement of financial position as the requirements for offsetting are met in accordance with K-IFRS No. 1012 "Income Tax".

(b) K-IFRS No. 1001 "Presentation of Financial Statements" – Disclosure of Accounting Policies

Material accounting policy information is defined as information that is expected to influence the decision-making of primary users of financial statements considering with other information included in the financial statements, and is required to be disclosed. Therefore, the Company selectively disclosed material accounting policies in the annual consolidated financial statements for the year ended December 31, 2023. For further information, refer to note 3.

(c) K-IFRS No. 1008 "Accounting Policies, Changes in Accounting Estimates and Errors" – Definition of Accounting Estimates

For accounting estimates defined as monetary amounts in the financial statements, a change in measurement methods or inputs are clarified as changes in accounting estimates unless they result from the correction of prior period errors. The amendment is applied prospectively to the changes in accounting estimates that occur after the effective date. The amendments did not have any impact on the consolidated financial statements.

(d) K-IFRS No. 1012 "Income Tax" – Global Minimum Top-Up Tax

The amendments include a temporary mandatory exception from accounting for deferred tax arising from global minimum top-up tax, and new disclosure requirements of the exposure information of the Company in relation to the Pillar Two taxes in the annual consolidated financial statements. Refer to note 36 for information on the new disclosure requirements provided by revised accounting standards

3. Summary of Material Accounting Policy Information

The material accounting policy information applied by the Company in preparation of its consolidated financial statements are included below. The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements, except for those as disclosed in note 2.

Basis of consolidation

(a) Business combinations

The Company accounts for business combinations applying the acquisition method.

(b) Non-controlling interests

Non-controlling interests are measured at their proportionate share of the acquiree's identifiable net assets at the acquisition date.

(c) Subsidiaries

The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which control ceases.

(d) Transactions eliminated on consolidation

Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated. Unrealized gains arising from transactions with equity-accounted investees are eliminated against the investment to the extent of the Company's interest in the investee. Unrealized losses are eliminated in the same way as unrealized gains, but only to the extent that there is no evidence of impairment.

(e) Business combination of entities or businesses under common control

In a business combination of entities or businesses under common control, the assets acquired and liabilities acquired are recognized at their carrying amounts in the consolidated financial statements of the Company. The difference between the consideration transferred and the carrying amount of the net assets acquired is adjusted in capital surplus.

Foreign operations

The assets and liabilities of foreign operations, whose functional currency is not the currency of a hyperinflationary economy, are translated to presentation currency at exchange rates at the reporting date. The income and expenses of foreign operations are translated to functional currency at exchange rates at the dates of the transactions. Foreign currency differences are recognized in other comprehensive income.

Cash and cash equivalents

Cash and cash equivalents comprise cash on hand, demand deposits, and short-term investments in highly liquid securities that are readily convertible to known amounts of cash with maturities of three months or less from the acquisition date and which are subject to an insignificant risk of changes in value. Equity investments are excluded from cash and cash equivalents.

Non-derivative financial assets

Trade receivables and debt securities issued are initially recognized when they are originated. All other financial assets are initially recognized when the Company becomes a party to the contractual provisions of the instrument.

A financial asset (unless it is a trade receivable without a significant financing component) is initially measured at fair value plus, for an item not at financial assets measured at fair value through profit or loss, transaction costs that are directly attributable to its acquisition or issue. A trade receivable without a significant financing component is initially measured at the transaction price.

(a) Financial assets measured at amortized cost

Financial assets measured at amortized cost are subsequently measured at amortized cost using the effective interest method. The amortized cost is reduced by impairment losses. Interest income, gains and losses on foreign currency translation and impairment losses are recognized in profit or loss. Any gain or loss on derecognition is recognized in profit or loss.

(b) Equity instruments measured at fair value through other comprehensive income

On initial recognition of an equity investment that is not held for trading, the Company may irrevocably elect to present subsequent changes in the investment's fair value in other comprehensive income. This election is made on an investment-by-investment basis.

Equity instruments measured at fair value through other comprehensive income are subsequently measured at fair value. Dividends are recognized as income in profit or loss unless the dividend clearly represents a recovery of part of the cost of the investment. Other net gains and losses are recognized in other comprehensive income and never reclassified to profit or loss.

(c) Financial assets measured at fair value through profit or loss

All financial assets not classified as measured at amortized cost of fair value through other comprehensive income as described above are measured at fair value through profit or loss. This includes all derivative financial assets. On initial recognition, the Company may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortized cost or at fair value through other comprehensive income as at fair value through profit or loss if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise.

Financial assets measured at fair value through profit or loss are subsequently measured at fair value. Net gains and losses, including any interest or dividend income, are recognized in profit or loss.

(e) Derecognition of financial assets

Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Company has transferred substantially all the risks and rewards of ownership. If a transfer does not result in derecognition because the Company has retained substantially all the risks and rewards of ownership of the transferred asset, the Company continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received.

Inventories

Inventory costs, except materials-in-transit in which costs are determined by using specific identification method, are determined by using the moving-weighted average method. The cost of inventories comprise all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition. The allocation of fixed production overheads to the costs of finished goods or work in progress are based on the normal capacity of the production facilities.

Non-current assets held for sale

Non-current assets or disposal groups comprising assets and liabilities that are expected to be recovered primarily through sale rather than through continuing use and are highly probable for immediate sale in their present condition are classified as held for sale.

Investment property

Transaction costs are included in the initial measurement. Subsequently, investment property is carried at depreciated cost less any accumulated impairment losses. Depreciation methods, useful lives and residual values are identical to those applied for property, plant and equipment.

Property, plant and equipment

Property, plant and equipment are initially measured at cost and after initial recognition, are carried at cost less accumulated depreciation and any accumulated impairment losses. The cost of property, plant and equipment includes expenditures arising directly from the construction or acquisition of the asset, 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 and, when the Company has an obligation to remove the asset or restore the site, an estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

The cost of replacing a part of an item is recognized in the carrying amount of the item of property, plant and equipment, if the following recognition criteria are met:

- (a) it is probable that future economic benefits associated with the item will flow to the Company, and
- (b) the cost can be measured reliably.

The carrying amount of the replaced part is derecognized at the time the replacement part is recognized. The costs of the day-to-day servicing of the item are recognized in profit or loss as incurred.

Items of property, plant and equipment are depreciated from the date they are available for use or, in respect of self-constructed assets, from the date that the asset is completed and ready for use. Other than land, the costs of an asset less its estimated residual value are depreciated. Depreciation of property, plant and equipment is recognized in profit or loss on a straight-line basis, which most closely reflects the expected pattern of consumption of the future economic benefits embodied in the asset, over the estimated useful lives of each component of an item of property, plant and equipment. Land is not depreciated.

The estimated useful lives of property, plant and equipment are as follows:

Buildings	5-50 years
Structures	4-50 years
Machinery and equipment	4-25 years
Vehicles	3-20 years
Tools	3-20 years
Furniture and fixtures	3-20 years
Lease assets	2-45 years
Bearer plants	20 years

Borrowing costs

The Company capitalizes borrowing costs directly attributable to the acquisition, construction or production of a qualifying asset as part of the cost of that asset. Other borrowing costs are recognized in expense as incurred.

Intangible assets

Intangible assets are measured initially at cost and, subsequently, are carried at cost less accumulated amortization and accumulated impairment losses.

Amortization of intangible assets except for goodwill 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 of intangible assets is zero. However, as there are no foreseeable limits to the periods over which club memberships are expected to be available for use, this intangible asset is determined as having an indefinite useful life and not amortized.

Intellectual property rights	4-25 years
Development expense	3-5 years

Port facilities usage rights4-75 yearsOther intangible assets2-15 years

Exploration for and evaluation of mineral resources

POSCO HOLDINGS INC. is engaged in exploration projects for mineral resources through subsidiaries, associates and joint ventures or other contractual arrangements. Expenditures related to the development of mineral resources are recognized as exploration or development intangible assets. The nature of these intangible assets are as follows:

(a) Exploration and evaluation assets

Exploration and evaluation assets consist of expenditures for topographical studies, geophysical studies and trenching. These assets are reclassified as development assets when it is proved that the exploration has identified commercially viable mineral deposit.

(b) Development assets

When proved reserves are determined and development is sanctioned, development expenditures incurred are capitalized. These expenditures include evaluation of oil fields, construction of oil and gas wells, drilling for feasibility and other related activities. Upon completion of development and inception of extraction for commercial production of developed proved reserves, the development assets are reclassified as either property, plant and equipment or as intellectual property rights (mining rights) under intangible assets based on the nature of the capitalized expenditure.

The respective property, plant and equipment and intellectual property (mining rights) are each depreciated and amortized based on proved reserves on a unit of production basis.

Government grants

(a) Grants related to assets

Government grants whose primary condition is that the Company purchase, construct or otherwise acquire long-term assets are deducted from the carrying amount of the assets and recognized in profit or loss on a systematic and rational basis over the life of the depreciable assets.

(b) Grants related to income

Government grants which are intended to compensate the Company for expenses incurred are deducted from the related expenses.

Leases

1) As a lessee

At inception or reassessment of a contract that contains a lease component, the Company allocates the consideration in the contract to each lease and non-lease component on the basis of their relative stand-alone prices.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date. Generally, the Company uses its incremental borrowing rate as the discount rate.

The Company determines its incremental borrowing rate by obtaining interest rates from various external sources and makes certain adjustments to reflect the terms of the lease and type of the asset leased.

The Company presents right-of-use assets in the same line item as is presents underlying assets of the same nature that it owns, and lease liabilities are included in other payables on the consolidated statement of financial position.

The Company has elected not to recognize right-of-use assets and lease liabilities for leases of low-value assets and short-term leases, including IT equipment. The Company recognizes the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

2) As a lessor

When the Company acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease. To classify each lease, the Company makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. The Company considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

The Company leases out its investment properties. The Company classifies these leases as operating leases. The Company recognize lease payments received under lease agreements as revenue on a straight-line basis over the lease term.

The Company provides subleases certain leased vessels and others.

Impairment for financial assets

The Company recognizes loss allowances for expected credit losses on:

- financial assets measured at amortized cost
- debt instruments measured at fair value through other comprehensive income
- lease receivables, contractual assets, loan commitments, and financial guarantee contracts
- (a) Judgments on credit risk

The Company assumes that the credit risk on a financial asset has increased significantly if it is more than 30 days past due. The Company considers a financial asset to be in default when the borrower is unlikely to pay its credit obligations to the Company in full, without recourse by the Company to actions such as realizing security (if any is held). The Company considers a debt security to have low credit risk when its credit risk rating is equivalent to investment grade defined by reliable credit rating agencies

(b) Expected credit losses

Expected credit losses for financial assets measured at amortized cost are recognized in profit or loss. Loss allowances for financial assets measured at amortized cost are deducted from carrying amount of the assets. For debt instruments measured at fair value through other comprehensive income, the loss allowance is charged to profit or loss and is recognized in other comprehensive income.

(c) Credit-impaired financial assets

At each reporting date, the Company assesses whether financial assets measured at amortized cost and debt instrument measured at fair value through other comprehensive income are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

Objective evidence that a financial asset or group of financial assets are impaired includes:

- significant financial difficulty of the issuer or borrower
- a breach of contract, such as a default or delinquency in interest or principal payments
- the lender, for economic or legal reasons relating to the borrower's financial difficulty, granting to the borrower a concession that the lender would not otherwise consider.
- it becoming probable that the borrower will enter bankruptcy or other financial reorganization
- the disappearance of an active market for that financial asset because of financial difficulties

(d) Write-off

The gross carrying amount of a financial asset is written off when the Company has no reasonable expectations of recovering a financial asset in entirety or a portion. The Company individually makes an assessment with respect to the timing and amount of write-off based on whether there is a reasonable expectation of recovery based on continuous payments and extinct prescriptions. The Company expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Company's procedures for recovery of amounts due.

Impairment for non-financial assets

The carrying amounts of the Company's non-financial assets, other than assets arising from contract assets, contract assets recognized in accordance with revenue from contracts with customers, employee benefits, inventories, deferred tax assets and non-current assets held for sale, are reviewed at the end of each reporting period to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Goodwill and intangible assets that have indefinite useful lives or that are not yet available for use, irrespective of whether there is any indication of impairment, are tested for impairment annually by comparing their recoverable amount to their carrying amount.

Management estimates the recoverable amount of an individual asset. If it is impossible to measure the individual recoverable amount of an asset, then management estimates the recoverable amount of cash-generating unit ("CGU"). A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The Company determined that individual operating entities are CGUs.

Derivative financial instruments, including hedge accounting

Subsequent to initial recognition, derivatives are measured at fair value, and changes therein are recognized as describe below.

(a) Hedge accounting

The Company holds forward exchange contracts, currency swaps and commodity future contracts to manage foreign exchange risk and commodity fair value risk. The Company designated derivatives as hedging instruments to hedge the risk of changes in the fair value of assets, liabilities or firm commitments (a fair value hedge) and foreign currency risk of highly probable forecasted transactions or firm commitments (a cash flow hedge).

① Fair value hedge

Changes in the fair value of a derivative hedging instrument designated as a fair value hedge are recognized in profit or loss.

② Cash flow hedge

When a derivative is designated to hedge the variability in cash flows attributable to a particular risk associated with a recognized asset or liability or a highly probable forecasted transaction that could affect profit or loss, the effective portion of changes in the fair value of the derivative is recognized in other comprehensive income, net of tax, and presented in the hedging reserve in equity. Any ineffective portion of changes in the fair value of the derivative is recognized immediately in profit or loss.

(b) Other derivatives

Changes in the fair value of a derivative that is not designated as a hedging instrument are recognized immediately in profit or loss.

Non-derivative financial liabilities

The Company classifies non-derivative financial liabilities into financial liabilities measured at fair value through profit or loss or financial liabilities measured at amortized cost in accordance with the substance of the contractual arrangement and the definitions of financial liabilities. The Company recognizes financial liabilities in the consolidated statement of financial position when the Company becomes a party to the contractual provisions of the financial liability.

Construction work in progress

The gross amount due from customers for contract work is presented for all contracts in which profits multiply cumulative percentage-of-completion exceed progress billings. If progress billings exceed profits multiply cumulative percentage-of-completion, then the gross amount due to customers for contract work is presented. The amount received from the customer before the construction work is performed is recognized as an advanced received. The amount billed for completed construction work is recognized as accounts receivable (a receivable).

The Company accounts for the remaining rights and performance obligation on the contract with the customers on a net basis. Due from customers for contract work and due to customers for contract work for same contract are offset and presented on a net basis.

Employee benefits

The Company's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods.

Provisions

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

Regarding provision for construction warranties, warranty period starts from the completion of construction in accordance with construction contracts. If the Company has an obligation for warranties, provision for warranties which are estimated based on historical warranty data are recorded as cost of construction and provision for warranties during the construction period.

If the estimated total contract cost of the construction contract exceeds the total contract revenue, the estimated contract cost exceeding the contract revenue is recognized as a provision for construction losses in the remaining contract for which construction has not proceeded.

A provision for restoration regarding contamination of land is recognized in accordance with the Company's announced Environment Policy and legal requirement as needed.

Emission Rights

The Company accounts for greenhouse gases emission right and the relevant liability as follows pursuant to *the Act on Allocation and Trading of Greenhouse Gas Emission* which became effective in Korea in 2015.

(a) Greenhouse Gases Emission Right

Greenhouse Gases Emission Right consists of emission allowances which are allocated from the government free of charge and those purchased from the market. The cost includes any directly attributable costs incurred during the normal course of business.

Emission rights held for the purpose of performing the obligation are classified as intangible asset and initially measured at cost and subsequently carried at cost less accumulated impairment losses.

The Company derecognizes an emission right asset when the emission allowance is unusable, disposed or submitted to government when the future economic benefits are no longer expected to be probable.

(b) Emission liability

Emission liability is a present obligation of submitting emission rights to the government with regard to emission of greenhouse gas. Emission liability is recognized when there is a high possibility of outflows of resources in performing the obligation and the costs required to perform the obligation are reliably estimable. Emission liability is an amount of estimated obligations for emission rights to be submitted to the government for the performing period. The emission liability is measured based on the expected quantity of emission for the performing period in excess of emission allowance in possession and the unit price for such emission rights in the market at the end of the reporting period. The emission liability is derecognized when submitted to the government.

Hybrid Bonds

Debt and equity instruments issued by the Company are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangements and the definitions of financial liability and an equity instrument. When the Company has an unconditional right to avoid delivering cash or another financial asset to settle a contractual obligation, the instruments are classified as equity instruments.

Revenue from contracts with customers

Revenue is measured based on the consideration promised in the contract with the customer. The Company recognizes revenue when the control over a good or service is transferred to the customer. The following are the revenue recognition policies for performance obligations in the contracts with customers in accordance with K-IFRS No. 1115.

(a) Sale of good

The goods sold by the Company consist mainly of steel products from the steel segment and products such as steel, chemicals, auto parts and machinery in the trade segment.

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For domestic sales, the control of the product is usually transferred to the customer when the product is delivered to the customer, at which point in time revenue is recognized. Invoices are generally due within 10 to 90 days. When a customer makes payment prior to the due date, they are offered a discount at certain percentage of the invoice amount.

For export sales, revenue is recognized at the time when control of the product is transferred to the customer based on the "International Incoterms for Interpretation of Trade Terms" prescribed in the respective contracts, and the Company's export contract generally transfers control to the customer at the shipping of the product. Invoices are usually issued at the date of bill of lading and revenues are recognized based on the terms of Letter of Credit (L / C), Acceptance Condition (D / A), Payment Condition (D / P), Telegraphic Transfer (T / T) and others.

The Company provides certain discount when the customer prepays according to the payment terms. The Company recognized revenue only to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur when discount period expires.

(b) Transportation service

For the performance obligation for transportation services included in the Company's product sales contracts, revenue is recognized over the period when in which the services are provided and the revenue is measured by reference to examining the degree to which the service has been completed so far. The billing date and payment terms for the service charge are the same as the billing date and payment terms for sale of goods.

(c) Construction contracts

In the case of construction contracts where the Company renders construction services for plants, etc., the customer controls the assets as they are being constructed. This is because under those contracts, the Company is able to perform construction or design services to meet the customer's specifications, and if a contract is terminated by the customer, the Company is entitled to reimbursement of all costs incurred to date, including a reasonable margin. When the contract can be reliably estimated, the Company recognizes the contract revenue and contract cost as revenue and costs based on the progress of the contract activity as of the end of the reporting period. The percentage of completion is determined based on the proportion that contract costs incurred for work performed excluding contract cost incurred that do not reflect the stage of completion to date bear to the estimated total contract costs.

If the outcome of the contract cannot be reliably estimated, the revenue is recognized only to the extent of the contract costs that are probable to be recovered. If the total contract cost is likely to exceed the total contract revenue, expected losses are immediately recognized as a cost.

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

The Company issues an invoice when the customer has completed a progress confirmation and generally the payment is due within 45 days from the invoice date.

(d) Certain construction contracts for apartments

For certain construction service contracts for apartments where the criterion of an enforceable right to payment for performance is met under K-IFRS No. 1115, even if the legal ownership or physical occupancy of the incomplete construction is not transferred to the customer during the construction period, revenue is recognized based on percentage of completion by considering the terms and conditions described in the relevant law and contracts such as the guarantee for sale policy, government approval on business plan, payment and termination terms. For certain construction contracts for apartments and shopping centers where the criterion of an enforceable right to payment for performance is not met during the construction period, the Company recognizes revenue upon completion of construction when the control of the apartments and shopping centers are transferred to customers.

In the meantime, the billing point and settlement terms of the pre-sale contract differ depending on the contract terms.

Finance income and finance costs

The Company's finance income and finance costs include:

- interest income;
- interest expense;
- dividend income;
- the foreign currency gain or loss on financial assets and financial liabilities;
- the net gain or loss on financial assets measured at fair value through profit or loss;
- hedge ineffectiveness recognized in profit or loss; and
- the net gain or loss on the disposal of investments in debt securities measured at fair value through other comprehensive income.

Interest income or expense is recognized using the effective interest method. Dividend income is recognized in profit or loss on the date on which the Company's right to receive payment is established.

Income taxes

The Company recognizes interest and penalties related to corporate tax as if it is applicable to the income taxes, the Company applies K-IFRS No. 1012 "Income Taxes", if it is not applicable to the income taxes, the Company applies K-IFRS No. 1037 "Provisions Contingent Liabilities and Contingent Assets".

Segment Reporting

Information of each operating segment is reported in a manner consistent with the internal business segment reporting provided to the chief operating decision-maker (Note 41). Operating results are regularly reviewed by the Company's chief operating decision maker to make decisions about resources to be allocated to the segment and assess its performance and for which discrete financial information is available.

Joint arrangements

Joint arrangements in which two or more parties have joint control are classified as joint operations or joint ventures. Participants in a joint operation retain rights and obligations for the joint operation's assets and liabilities and recognizes its share of the joint operation's assets and liabilities, income and expenses. Participants in a joint venture have rights to the net assets of the joint venture, and the equity method is applied.

New standards and interpretations not yet adopted

A number of new standards are effective for annual periods beginning after January 1, 2023 and earlier application is permitted but the Company has not early adopted the new or amended standards in preparing these consolidated financial statements.

(a) K-IFRS No. 1001 "Presentation of Financial Statements" – Classification of Liabilities as Current or Non-current

The amendment clarifies that the classification of current and non-current liabilities is determined by the right to defer settlement of the liability for more than 12 months after the end of the reporting period, and in order for the debtor to have the "right to defer settlement of the liability", the condition of complying with the contract must be met at the end of the reporting period. In addition, the classification of liabilities is not affected by the possibility of exercising the right to defer settlement of the liability for more than 12 months after the end of the reporting period, and the amendment clarifies that settlement of a liability includes transferring a company's own equity instruments to the counterparty. The amendment is effective for annual periods beginning on or after January 1, 2024. Early application is permitted. The Company does not expect the effect of the amendments to the consolidated financial statements to be significant.

(b) K-IFRS No. 1007 "Statements of Cash Flows", No. 1107 "Financial Instruments: Disclosure" – Supplier Finance Arrangements

The amendments require disclosure of notes on supplier finance arrangements to inform users of financial statements the impact of supplier finance arrangements on the Company's liabilities and exposure to cash flow and liquidity risks. The amendments are effective for the fiscal years beginning on or after January 1, 2024. Early application permitted. The Company is analyzing the effect of the amendments to the consolidated financial statements.

4. Financial risk management

The Company has exposure to the following risks from its use of financial instruments:

- credit risk
- liquidity risk
- market risk
- capital risk

This note presents information about the Company's exposure to each of the above risks, the Company's objectives, policies and processes for measuring and managing risk, and the Company's management of capital. Further quantitative disclosures are included throughout these consolidated financial statements.

(a) Financial risk management

1) Risk management framework

The Board of Directors has overall responsibility for the establishment and oversight of the Company's risk management framework. The Company's risk management policies are established to identify and analyze the risks faced by the Company, 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 Company's activities.

The Company, 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.

2) Credit risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Company's receivables from customers and investment securities. In addition, credit risk arises from finance guarantees.

The Company implements a credit risk management policy under which the Company only transacts business with counterparties that have a certain level of credit rate evaluated based on financial condition, historical experience, and other factors. The Company's exposure to credit risk is influenced mainly by the individual characteristics of each customer. The default risk of a nation or an industry in which a customer operates its business does not have a significant influence on credit risk. The Company has established a credit policy under which each new customer is analyzed individually for creditworthiness.

The Company establishes an allowance for impairment that represents its estimate of expected losses in respect of trade and other receivables. The main components of this allowance are a specific loss component that relates to individually significant exposures, and a collective loss component established for companies of similar assets

in respect of losses that have been incurred.

Credit risk also arises from transactions with financial institutions, and such transactions include transactions of cash and cash equivalents, various deposits, and financial instruments such as derivative contracts. The Company manages its exposure to this credit risk by only entering into transactions with banks that have high international credit ratings. The Company's treasury department authorizes, manages, and overseas new transactions with financial institutions with whom the Company has no previous relationship.

Furthermore, the Company limits its exposure to credit risk of financial guarantee contracts by strictly evaluating their necessity based on internal decision making processes, such as the approval of the Board of Directors.

3) Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting the obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Company'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 Company's reputation.

The Company's cash flow from business, borrowing or financing is sufficient to meet the cash requirements for the Company's strategic investments. Management believes that the Company is capable of raising funds by borrowing or financing if the Company is not able to generate cash flow requirements from its operations. The Company has committed borrowing facilities with various banks.

4) Market risk

Market risk means that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market prices. The goal of market risk management is optimization of profit and controlling the exposure to market risk within acceptable limits.

Currency risk

The Company's policy in respect of foreign currency risks is a natural hedge whereby foreign currency income is offset with foreign currency expenditures. The remaining net exposures after the natural hedge have been hedged using derivative contracts such as forward exchange contracts. In addition, the Company's derivative transactions are limited to hedging actual foreign currency transactions and speculative hedging is not permitted. Based on this policy, the Company has performed currency risk management specific to various characteristics of different segments. The entities in the steel segment reduces the foreign currency exposure by repayment of foreign currency borrowings subjected to investment in overseas when its maturities come. The entities in the engineering and construction segment have hedged foreign currency risks by using forward exchange contracts.

Entities in the trading segment have hedged foreign currency risks by using forward exchange contracts when the foreign currencies received and paid are different.

② Interest rate risk

The Company manages the exposure to interest rate risk by adjusting of borrowing structure ratio between borrowings at fixed interest rate and variable interest rate. The Company monitors interest rate risks regularly in order to avoid exposure to interest rate risk on borrowings at variable interest rate.

③ Interest rate benchmark reform risk

A fundamental reform of major interest rate benchmark is being undertaken globally, including the replacement of some interbank offered rates (IBORs) with alternative nearly risk-free rates (referred to as "IBOR reform"). The publication of overnight and 1, 3, 6, and 12 months USD LIBOR has ceased on June 30, 2023 and all other LIBOR publication has ceased on December 31, 2021. Meanwhile, as announced by the UK Financial Conduct Authority in early 2023, the publication of 1, 3, and 6 months synthetic USD LIBOR will cease on September 30, 2024. As a result of the reform, Korea Overnight Financing Repo Rate (KOFR) has been selected as the benchmark for the domestic CD rate which has been published by Korea Securities since November 26, 2021. The details of when and how to KOFR are unclear.

As of December 31, 2023, WIBOR and CD floating rate borrowings are exposed to interest rate benchmark reform risk. For all USD LIBOR floating rate financial instruments, the Company completed the modification of contracts by June 30, 2023.

In July, 2019, changes related to the methodologies to determine Euribor were made and Belgium Financial Services and Markets Authority granted the continuity of Euribor usage based on the European Union Benchmark Regulation. The Company did not make a transition from Euribor to alternative benchmark rate, and expects to continue to use Euribor.

The Company manages the alternative benchmark rate transition by modifying the clause, IBOR related to uncompleted interest rate benchmark reform. The progress of transition is managed by comparing the financial instruments with transition not yet completed and financial instruments with modification of clause completed. The Company classifies the financial instruments, with IBOR as the benchmark rate, as transition not yet completed even if the clause in the contract has been modified.

Financial instruments classified as transition not yet completed as of December 31, 2023 are as follows:

(in millions of Won)		WIBOR	
Category(*2)	_	Transition not yet completed	Modification of clause completed
Non-derivative financial liabilities(*1) Borrowings	₩	67,943	-

(*1) Based on nominal amount.

(*2) Financial instruments that are not obliged to be transitioned to alternative benchmark rate as of December 31, 2023 are excluded.

The transition to alternative benchmark rate is not needed for the financial instruments above as the WIBOR publishment will continue until their maturity.

④ Other market price risk

Equity price risk arises from fluctuation of market price of listed equity securities. Management of the Company measures regularly the fair value of listed equity securities and the risk of variance in future cash flow caused by market price fluctuations. Significant investments are managed separately and all buy and sell decisions are approved by management of the Company. (b) Management of capital

The fundamental goal of capital management is the maximization of shareholders' value by means of the stable dividend policy and the retirement of treasury shares. The capital structure of the Company consists of equity and net borrowings (after deducting cash and cash equivalents) and current financial instruments from borrowings. The Company applied the same capital risk management strategy that was applied in the previous period.

Net borrowing-to-equity ratio as of December 31, 2023 and 2022 is as follows:

(in millions of Won)	_	2023	2022
Total borrowings Less: Cash and cash equivalents	₩	25,970,379 6,670,879	24,305,662 8,053,108
Net borrowings		19,299,500	16,252,554
Total equity		59,663,897	58,257,401
Net borrowings-to-equity ratio		32.35%	27.90%

5. Cash and Cash Equivalents

Cash and cash equivalents as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Cash	₩	12,312	7,510
Demand deposits and checking accounts		2,537,545	2,826,227
Time deposits		1,473,081	2,638,838
Other cash equivalents		2,647,941	2,580,533
	₩	6,670,879	8,053,108

As of December 31, 2023 and 2022, cash and cash equivalents of subsidiaries of the Company, such as POSCO INTERNATIONAL CO., LTD, amounting to W85,163 million and W36,182 million, respectively, are restricted.

6. Trade Accounts and Notes Receivable

Trade accounts and notes receivable as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Current			
Trade accounts and notes receivable	₩	9,382,640	8,696,067
Due from customers for contract work		1,916,238	1,407,278
Less: Allowance for doubtful accounts		(283,575)	(333,792)
	₩	11,015,303	9,769,553
Non-current			
Trade accounts and notes receivable	\mathbf{W}	89,839	68,342
Less: Allowance for doubtful accounts		(47,323)	(44,309)
	₩	42,516	24,033

The Company sold trade accounts and notes receivable with recourse to financial institutions. This transaction has a right of recourse because the Company has an obligation to pay the amount to financial institutions if the relevant receivables are not collected at maturity, so the transaction was recognized as secured borrowings. As of December 31, 2023 and December 31, 2022, the carrying amounts of such secured borrowings are W132,942 million and W215,133 million, respectively, which are presented in the statements of financial position as the short-term borrowings.

7. Other Receivables

(a) The details of other receivables as of December 31, 2023 and 2022, are as follows:

(in millions of Won)		2023	2022
Current			
Short-term loans	₩	223,011	278,346
Other accounts receivable		1,433,423	1,381,804
Accrued income(*1)		237,154	334,741
Deposits		125,854	131,468
Others		15,349	23,201
Lease receivables		23,948	46,764
Less: Allowance for doubtful accounts		(111,210)	(83,627)
	₩	1,947,529	2,112,697
Non-current			
Long-term loans(*1)	₩	1,204,645	1,082,139
Other accounts receivable		186,492	237,161
Accrued income		184,739	121,783
Deposits		308,185	292,722
Lease receivables		78,994	55,312
Less: Allowance for doubtful accounts		(510,610)	(268,786)
	₩	1,452,445	1,520,331

(*1) Due to the continuous operating losses and deteriorating business environment of FQM Australia Holdings Pty Ltd, an associate, the Company assessd the recoverability of the related loans and accrued interest and recognized a full allowance for doubtful accounts of W257,500 million.

(b) The details of lease receivables are as follows:

Customer	Leased items		2023	2022
Pohang University of Science and				
Technology	Lease contract	₩	7,586	7,738
Korea Business Angels Association	Lease contract		2,339	2,621
HEUNG-A SHIPPING CO., LTD., HEUNG-A LINE CO., LTD.	4 Container Ships, 4 Tankers		50,429	88,573
Executive Offshore, PT Wintermar,				
COHC, Myanma Port Authority	Helicopter, Ship, Jetty		42,588	3,144
		₩	102.942	102,076

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

(c) As of December 31, 2023 and 2022, total lease investment and net lease investment are as follows :

(in millions of Won)		2023	2022
Less than 1 year	₩	24,965	48,127
1 year - 3 years		31,840	19,861
3 years - 5 years		20,820	5,371
Over 5 years		63,583	64,811
Undiscounted lease payments		141,208	138,170
Unrealized interest income		(38,266)	(36,094)
Present value of minimum lease payment	₩	102,942	102,076

8. Other Financial Assets

Other financial assets as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Current			
Derivatives assets	\mathbf{W}	166,873	223,771
Debt securities		295,619	121,122
Deposit instruments(*1)		4,400,267	2,558,946
Short-term financial instruments(*1)		6,540,407	8,006,081
	₩	11,403,166	10,909,920
Non-current			
Derivatives assets	₩	134,269	136,224
Equity securities(*2)		1,793,531	1,462,088
Debt securities		87,778	78,901
Other securities(*2)		669,687	632,469
Deposit instruments(*1)		23,060	22,856
	₩	2,708,325	2,332,538

- (*1) As of December 31, 2023 and 2022, financial instruments amounting to W101,888 million and W73,192 million, respectively, are restricted in use for financial arrangements, pledge and others.
- (*2) As of December 31, 2023 and 2022, W181,617 million and W153,640 million of equity and other securities, respectively, have been provided as collateral for borrowings, construction projects and others.

9. Inventories

(a) Inventories as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Finished goods	₩	2,615,009	2,508,370
Merchandise		1,049,467	1,237,203
Semi-finished goods		3,039,516	3,453,150
Raw materials		3,237,691	4,171,049
Fuel and materials		921,742	1,109,100
Construction inventories		256,558	470,790
Materials-in-transit		2,965,306	2,738,439
Others		87,802	100,873
		14,173,091	15,788,974
Less: Allowance for inventories valuation		(347,577)	(316,557)
	₩	13,825,514	15,472,417

(b) The changes of allowance for inventories valuation for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Beginning	₩	316,557	161,929
Loss on valuation of inventories(*1)		309,317	259,678
Utilization on sale of inventories		(256,969)	(97,749)
Others		(21,328)	(7,301)
Ending	₩	347,577	316,557

(*1) During the year ended December 31, 2022, in addition to loss on valuation of inventories, W95,278 million of damage caused by the flooding of the Naengcheon stream in Pohang was included in cost of sales.

10. Assets Held for Sale

Details of assets held for sale as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023(*1)	2022
Asset	-		
Cash and cash equivalents(*2)	\mathbf{W}	-	174
Account reveivables and other receivables		728	648
Inventories		39,054	-
Other financial assets		119,881	-
Investment in joint ventures(*3)		-	-
Property, plant and equipment(*4)		149,612	10,552
Intangible assets		97,372	-
Others		298	629
	₩	406,945	12,003
Liability			
Other receivables	₩	22,180	5
Provisions		119,710	-
	₩	141,890	5

- (*1) POSCO Canada Ltd., a subsidiary of the Company, made investment in kind the assets and liabilities of Greenhills Mine and the shares of Elkview Mine Limited Partnership, which were classified as joint operation and financial assets at fair values through profit or loss, respectively, to a newly established partnership by Teck Coal Partnership which is the principal operator and majority shareholder. As a result, the Company recognized W401,804 million of asset held for sale and W141,890 million of liability held for sale.
- (*2) Cash and cash equivalents in the statement of cash flows include cash and cash equivalents that are classified as assets held for sale as of December 31, 2022.
- (*3) During the year ended December 31, 2022, the Company decided to dispose of CSP -Compania Siderurgica do Pecem and recognized full impairment loss of W160,415 million, which is the difference between carrying amount and recoverable amount. The Company reclassified the investment to assets held for sale. Meanwhile, during the year ended December 31, 2023, the Company disposed of CSP - Compania Siderurgica do Pecem, and recognized W103,366 million of loss on disposal of assets held for sale. The loss on disposal of assets held for sale recognized as profit or loss includes W102,470 million, which was reclassified from accumulated other comprehensive loss arising from translating the financial statements of foreign operation.
- (*4) During the past period, the Company decided to dispose Synthetic Natural Gas (SNG) facility for which use was discontinued, and classified as assets held for sale for W10,305 million. Meanwhile, during the year ended December 31, 2023, the Company disposed of the assets held for sale for W9,599 million and reclassified the remaining amount W706 million to property, plant and equipment.

11. Investments in Associates and Joint ventures

(a) Investments in associates and joint ventures as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Investments in associates	\mathbf{W}	2,292,253	2,518,906
Investments in joint ventures		2,728,011	2,477,645
	₩	5,020,264	4,996,551

(b) Details of investments in associates as of December 31, 2023 and 2022 are as follows:

n millions of Won)		2022					
	Number	Ownership		Acquisition			
Company	of shares	(%)		cost	Book value	Book value	
Domestic]							
Samcheok Blue Power Co.,Ltd.(*1)	4,507,138	34.00	₩	429,904 ₩	323,521	352,50	
SNNC	18,130,000	49.00		90,650	100,692	182,414	
Chun-cheon Energy Co., Ltd(*1)	17,308,143	49.10		86,541	15,040	9,513	
Pocheon-Hwado Highway Corp.(*1) CHUNGJU ENTERPRISE CITY	7,109,230	27.89		35,546	23,998	27,16	
DEVELOPMENT Co.,Ltd	1,181,160	29.53		5,906	13,967	14,60	
DaeSung SnM Co., Ltd							
(formerly, Daesung Steel)(*2)	108,038	17.54		14,000	20,296	20,46	
PCC Amberstone Private Equity Fund 1(*2)	7,636,948,293	8.80		7,519	8,904 122,366	9,32 238.08	
Others (49 companies)(*1)				-	628,784	238,08	
Foreign]				-	020,704	654,07	
South-East Asia Gas Pipeline Company Ltd.	135,219,000	25.04		132,907	287,282	290,31	
AES Mong Duong Power Company Limited(*1)	-	30.00		164,303	230,699	209,59	
3404-5515 Quebec Inc.	284,463,243	25.85		328,509	346,724	331,26	
FQM Australia Holdings Pty Ltd	186,000,030	24.32		109,568	-	98,10	
Eureka Moly LLC	-	20.00		240,123	-	14,57	
AMCI (WA) PTY LTD	49	49.00		209,664	60,225	57,83	
NCR LLC	-	22.10		247,077	253,121	187,37	
KOREA LNG LTD.	2,400	20.00		135,205	58,759	29,12	
Nickel Mining Company SAS	3,234,698	49.00		157,585	87,967	90,63	
ZHEJIANG HUAYOU-POSCO ESM CO., LTD	648,530,000	40.00		120,072	105,300	98,93	
PT. Wampu Electric Power(*1)	8,708,400	20.00		10,054	15,632	16,65	
POS-SeAH Steel Wire(Nantong) Co., Ltd.	50	25.00		4,723	8,642	8,59	
Others (28 companies)(*1)					209,118	231,83	
				-	1.663.469	1,664,82	
				₩	2.292.253	2,518,90	

- (*1) As of December 31, 2023 and 2022, investments in associates amounting to W650,116 million and W628,573 million, respectively, are provided as collateral in relation to the associates' borrowings.
- (*2) As of December 31, 2023, it was classified as an associate even though the Company's ownership percentage is less than 20% since the Company has significant influence over the investee when considering the structure of its Board of Directors and others.

(c) Details of investments in joint ventures as of December 31, 2023 and 2022 are as follows:

(in millions of Won)			2023	3		2022
Company	Number of shares	Ownership (%)		Acquisition cost	Book value	Book value
[Domestic]						
POSCO MC MATERIALS						
(formerly, POSCO MITSUBISHI CARBON						
TECHNOLOGY)	11,568,000	60.00	₩	115,680 W	155,748	161,465
Others (6 companies)				-	8,323	8,845
				-	164,071	170,310
[Foreign]						
Roy Hill Holdings Pty Ltd(*1)	13,117,972	12.50		1,528,672	1,400,009	1,418,022
POSCO-NPS Niobium LLC	325,050,000	50.00		364,609	419,192	412,002
KOBRASCO	2,010,719,185	50.00		32,950	99,768	103,044
BX STEEL POSCO Cold Rolled Sheet Co., Ltd.	-	25.00		61,961	111,001	111,219
DMSA/AMSA(*1)	-	3.89		346,880	16,572	23,740
PT NICOLE METAL INDUSTRY(*2)	76,382,353	49.00		292,780	284,351	-
HBIS-POSCO Automotive Steel Co., Ltd	-	50.00		235,251	208,765	216,138
Others (9 companies)					24,282	23,170
				-	2,563,940	2,307,335
				W	2,728,011	2,477,645

- (*1) As of December 31, 2023 and 2022, the investments in joint ventures are provided as collateral in relation to the joint ventures' borrowings.
- (*2) During the year ended December 31, 2023, the Company acquired 49% shares of PT NICOLE METAL INDUSTRY, for W292,780 million and classified as investments in joint ventures.

(d) The movements of investments in associates and joint ventures for the years ended December 31, 2023 and 2022 were as follows:

1) For the year ended December 31, 2023

Company		December 31, 2022 Book value	Acquisition	Dividends	Share of profits (losses)	Other increase (decrease)(*1)	December 31, 2023 Book value
Domestic]						(
Samcheok Blue Power Co., Ltd.	₩	352,500		(10,020)	(18,802)	(157)	323,52
SNNC		182,414		-	(81,803)	81	100,69
QSONE Co., Ltd. (*2)		86,378			245	(86,623)	
Chun-cheon Energy Co., Ltd		9,513	-	-	4,990	537	15,04
Pocheon-Hwado Highway Corp.		27,165	636	-	(3,803)	-	23,99
CHUNGJU ENTERPRISE CITY							
DEVELOPMENT Co., Ltd		14,605	-	-	(638)		13,96
DaeSung SnM Co., Ltd							
(formerly, Daesung Steel)		20,469	-	-	75	(248)	20,29
PCC Amberstone Private Equity Fund 1		9,326	-	(622)	562	(362)	8,90
POSCO MC MATERIALS							
(formerly, POSCO MITSUBISHI CARBON						107	
TECHNOLOGY) Others (55 companies)		161,465	-	(9,000)	3,176		155,74
Others (55 companies)	-	160,553	16,439	(4,292) (23,934)	1,966 (94.032)	(43,977) (130,642)	130,68
Foreign]	-	1,024,388	17,075	(20,904)	(94,032)	(130,042)	/92,60
South-East Asia Gas Pipeline Company Ltd.		290,318	_	(59,295)	50,340	5,919	287.28
AES Mong Duong Power Company Limited		209,594	_	(33,839)	38,782	16,162	230,69
9404-5515 Quebec Inc (*2)		331,261	_	(14,251)	16,494	13,220	346,72
FQM Australia Holdings Pty Ltd		98,103	_	(14,201)	(111,783)	13.680	040,72
Eureka Moly LLC		14,574			(15,020)	446	
AMCI (WA) PTY LTD		57,830			(10,020)	2.898	60,22
NCR LLC		187,372	65,542		(6,999)	7,206	253,12
KOREA LNG LTD.		29,124	00,042	(21,106)	21,060	29,681	58,75
Nickel Mining Company SAS		90,636		(21,100)	(8,358)	5,689	87,96
ZHEJIANG HUAYOU-POSCO ESM CO., LTD		98,933	15,640		(8,435)	(838)	105.30
PT. Wampu Electric Power		16,659		(1.624)	1.890	(1.293)	15.63
POS-SeAH Steel Wire(Nantong) Co., Ltd.		8,590			. 98	(46)	8.64
Roy Hill Holdings Pty Ltd		1,418,022		(367.445)	292.478	56,954	1,400,00
POSCO-NPS Niobium LLC		412.002		(35, 543)	35,148	7.585	419,19
KOBRASCO		103,044		(36,471)	21,795	11,400	99,76
BX STEEL POSCO Cold Rolled Sheet Co., Ltd.		111,219		(12,386)	12,669	(501)	111.00
DMSA/AMSA		23,740	-	-	(7,681)	513	16,57
PT NICOLE METAL INDUSTRY			292,780		39	(8,468)	284.35
HBIS-POSCO Automotive Steel Co., Ltd		216,138		-	(6,765)	(608)	208,76
Others (37 companies)		255.004		(52,444)	38,461	(7.621)	233,40
	-	3.972.163	373.962	(634,404)	363,710	151,978	4.227.40
	10/	4.996.551	391,037	(658,338)	269.678	21,336	5,020,26

- (*1) Other increase or decrease represents the changes in investments in associates and joint ventures due to disposals and change in capital adjustments effect from translations of financial statements of foreign investees and others during the year ended December 31, 2023.
- (*2) During the year ended December 31, 2023, the Company additionally acquired 50% of the shares held by external shareholders of QSONE Co.,Ltd., which was previously classified as an investment in associate. Accordingly, the entity was newly included in consolidated subsidiary due to obtaining control of the entity.

2) For the year ended December 31, 2022

	D	ecember 31, 2021			Share of	Other increase	December 31, 2022	
Company		Book value	Acquisition	Dividends	profits (losses)	(decrease)(*1)	Book value	
[Domestic]								
EQP POSCO Global NO1 Natural Resources								
Private Equity Fund(*3)	₩	176,136	-	(143,170)	145,822	(178,788)		
Samcheok Blue Power Co.,Ltd.		382,887	-	(9,992)	(19,354)	(1,041)	352,500	
SNNC		171,332	-	(5,348)	15,484	946	182,414	
QSONE Co.,Ltd.		86,058	-	(1,100)	1,420	-	86,378	
Chun-cheon Energy Co., Ltd		9,571	-	-	(802)	744	9,513	
Western Inland highway CO., LTD.		53,563	-	-	(125)	(53,438)		
Pocheon-Hwado Highway Corp.		28,813	5,519	-	(4,683)	(2,484)	27,165	
CHUNGJU ENTERPRISE CITY								
DEVELOPMENT Co.,Ltd		19,191	-	-	(453)	(4,133)	14,605	
DaeSung SnM Co., Ltd								
(formerly, Daesung Steel)		19,073	-	-	1,396	-	20,469	
PCC Amberstone Private Equity Fund 1		9,251	-	(652)	1,104	(377)	9,326	
POSCO MC MATERIALS								
(formerly, POSCO MITSUBISHI CARBON								
TECHNOLOGY)		169,838	-	(24,000)	15,604	23	161,465	
Others (64 companies)		113,711	45,563	(4,368)	(3,931)	9,578	160,553	
		1,239,424	51,082	(188,630)	151,482	(228,970)	1,024,388	
[Foreign]								
South-East Asia Gas Pipeline Company Ltd.		238,601	-	(14,541)	50,143	16,115	290,318	
AES Mong Duong Power Company Limited		182,639	-	(33,174)	45,382	14,747	209,594	
9404-5515 Quebec Inc.(*2)		135,738	172,316	(31,949)	25,195	29,961	331,261	
FQM Australia Holdings Pty Ltd		91,052	-	-	166	6,885	98,103	
Eureka Moly LLC		13,633	-	-	-	941	14,574	
AMCI (WA) PTY LTD		67,972		-	(3,964)	(6,178)	57,830	
NCR LLC		102,319	82,798		(2,338)	4,593	187,372	
KOREA LNG LTD.		31,340		(21,161)	21,027	(2.082)	29,124	
Nickel Mining Company SAS		48,249			42,169	218	90.636	
ZHEJIANG HUAYOU-POSCO ESM CO., LTD		22,769	82,010		(1,302)	(4,544)	98,933	
Zhongyue POSCO (Qinhuangdao) Tinplate		22,700	02,010		(1,002)	(1,011)	00,000	
Industrial Co., Ltd		19.099			213	(19.312)		
PT. Wampu Electric Power		15,851		(2,474)	823	2,459	16,659	
POS-SeAH Steel Wire(Nantong) Co., Ltd.		9,140			(220)	(330)	8.590	
Roy Hill Holdings Pty Ltd		1.346.712		(233,592)	273.084	31.818	1.418.022	
POSCO-NPS Niobium LLC		393,793		(34,909)	25.884	27.234	412.002	
KOBRASCO		68.296		(21,287)	48,267	7.768	103.044	
BX STEEL POSCO Cold Rolled Sheet Co., Ltd.		107,650		(21,207)	6,527	(2,958)	111,219	
DMSA/AMSA			-	-				
CSP - Compania Siderurgica do Pecem		24,144 52,257	-	-	(2,108) (90,395)	1,704 38,138	23,740	
HBIS-POSCO Automotive Steel Co., Ltd			-	-			010 100	
		110,769	126,195	-	(10,515)	(10,311)	216,138	
Others (37 companies)		193,200	29,975	(56,527)	96,740	(8,384)	255,004	
		3,275,223	493,294	(449,614)	524,778	128,482	3,972,163	
	₩	4,514,647	544,376	(638,244)	676,260	(100,488)	4,996,551	

- (*1) Other increase or decrease represents the changes in investments in associates and joint ventures due to disposals and change in capital adjustments effect from translations of financial statements of foreign investees and others during the year ended December 31, 2022.
- (*2) During the year ended December 31, 2022, it was additionally acquired due to the in-kind dividend of EQP POSCO Global NO1 Natural Resources Private Equity Fund, and the Company classify it as other increase or decrease.
- (*3) During the year ended December 31, 2022, dividends were declared prior to liquidation. The Company recognized full impairment loss of W10,065 million considering the low asset quality and assessment of recoverable amount.

(e) Summarized financial information of associates and joint ventures as of and for the years ended December 31, 2023 and 2022 are as follows:

1) December 31, 2023

(in millions of Won)

(in millions of Won)						
Company		Assets	Liabilities	Equity (deficit)	Sales	Net income (loss)
[Domestic]				(401101)		(1000)
Samcheok Blue Power Co.,Ltd.	₩	4,228,568	3,669,074	559,494	14,002	(28,880)
SNNC		612,992	388,715	224,277	766,011	(168,553)
Chun-cheon Energy Co., Ltd		571,495	453,390	118,105	502,879	10,453
Pocheon-Hwado Highway Corp.		583,935	462,900	121,035	-	(1,824)
CHUNGJU ENTERPRISE CITY						
DEVELOPMENT Co., Ltd		19,995	2,998	16,997	5,595	(2,160)
DaeSung SnM Co., Ltd						
(formerly, Daesung Steel)		178,251	93,930	84,321	108,660	430
PCC Amberstone Private Equity Fund 1		105,145	3,923	101,222	12,134	6,391
POSCO MC MATERIALS						
(formerly, POSCO MITSUBISHI CARBON				000 570		0.000
TECHNOLOGY)		431,090	170,518	260,572	194,238	2,998
[Foreign]						
South-East Asia Gas Pipeline Company Ltd.		1,758,765	611,484	1,147,281	434,358	201,031
AES Mong Duong Power Company Limited		1,612,793	889,424	723,369	449,807	129,274
9404-5515 Quebec Inc.		1,430,295	-	1,430,295	-	63,809
FQM Australia Holdings Pty Ltd		180,931	1,219,922	(1,038,991)	453,626	(1,480,586)
KOREA LNG LTD.		94,661	136	94,525	108,081	105,300
Nickel Mining Company SAS		520,209	272,567	247,642	296,130	(26,786)
ZHEJIANG HUAYOU-POSCO ESM CO., LTD		297,683	33,927	263,756	34,372	(21,081)
PT. Wampu Electric Power		206,942	131,822	75,120	20,166	9,452
POS-SeAH Steel Wire(Nantong) Co., Ltd.		82,568	48,727	33,841	117,208	522
Roy Hill Holdings Pty Ltd		10,929,518	3,007,919	7,921,599	8,146,546	2,826,424
POSCO-NPS Niobium LLC		838,180	-	838,180	-	64,687
KOBRASCO		224,406	25,475	198,931	63,338	43,591
BX STEEL POSCO Cold Rolled Sheet Co., Ltd.		659,704	242,566	417,138	1,647,395	50,675
DMSA/AMSA		3,058,209	2,632,239	425,970	1,106,369	(197,482)
HBIS-POSCO Automotive Steel Co., Ltd		826,886	398,751	428,135	340,341	(12,584)
PT NICOLE METAL INDUSTRY		389,077	2,237	386,840	-	79

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

2) December 31, 2022

(in millions of Won)

(in millions of Won)				-		
Company		Assets	Liabilities	Equity (deficit)	Sales	Net income (loss)
[Domestic]		10000		(donoil)	Culto	(1000)
EQP POSCO Global NO1 Natural Resources						
Private Equity Fund	₩	9,471	480	8,991	-	425,366
Samcheok Blue Power Co.,Ltd.		3,515,861	2,885,218	630,643	-	(8,447)
SNNC		667,440	274,801	392,639	986,557	10,273
QSONE Co., Ltd.		253,078	80,322	172,756	18,753	2,840
Chun-cheon Energy Co., Ltd		634,842	527,190	107,652	585,610	20,224
Pocheon-Hwado Highway Corp. CHUNGJU ENTERPRISE CITY		366,163	244,455	121,708	-	(1,175)
DEVELOPMENT Co.,Ltd DaeSung SnM Co., Ltd		24,926	5,769	19,157	17,189	(1,521)
(formerly, Daesung Steel)		175,429	90,126	85,303	128,401	7,957
PCC Amberstone Private Equity Fund 1 POSCO MC MATERIALS (formerly, POSCO MITSUBISHI CARBON		106,024	-	106,024	13,877	12,546
TECHNOLOGY)		447,604	175,229	272,375	252,246	27,628
[Foreign]						
South-East Asia Gas Pipeline Company Ltd.		1,705,670	546,262	1,159,408	447,696	200,246
AES Mong Duong Power Company Limited		1,701,272	1,019,227	682,045	417,021	151,022
9404-5515 Quebec Inc.		1,397,061	-	1,397,061	-	182,708
FQM Australia Holdings Pty Ltd		1,458,318	1,131,628	326,690	493,202	(22,768)
KOREA LNG LTD.		145,845	225	145,620	107,295	105,135
Nickel Mining Company SAS		539,318	279,291	260,027	379,922	91,008
ZHEJIANG HUAYOU-POSCO ESM CO., LTD		305,740	57,932	247,808	45,771	(3,176)
PT. Wampu Electric Power		209,815	129,520	80,295	21,760	4,115
POS-SeAH Steel Wire(Nantong) Co., Ltd.		79,116	45,677	33,439	136,663	(992)
Roy Hill Holdings Pty Ltd		9,859,888	2,152,428	7,707,460	7,706,908	2,542,223
POSCO-NPS Niobium LLC		823,800	-	823,800	-	49,341
KOBRASCO		262,724	57,242	205,482	147,843	96,534
BX STEEL POSCO Cold Rolled Sheet Co., Ltd.		663,509	245,499	418,010	1,881,946	26,106
DMSA/AMSA		3,022,659	2,412,377	610,282	1,368,730	(54,212)
CSP - Compania Siderurgica do Pecem		4,422,752	3,678,956	743,796	3,101,132	500,082
HBIS-POSCO Automotive Steel Co., Ltd		712,633	270,668	441,965	473,494	(15,515)

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

(f) Changes in accumulated losses of equity-accounted investees that were not recognized since the Company discontinues the use of the equity method for the year ended December 31, 2023 were as follows:

		Beginning	Increase	Ending
Company		balance	or decrease	balance
New Songdo International City Development, LLC	₩	134,495	(17,780)	116,715
UITrans LRT Co., Ltd.		43,872	2,583	46,455
Clean Iksan Co., Ltd.		703	(217)	486
HYOCHUN Co., Ltd.		4,396	713	5,109
KIRIN VIETNAM CO., LTD		103	(1)	102
INKOTECH, INC.		540	453	993
POSCO-Poggenamp Electrical Steel Pvt. Ltd.		557	239	796
Gunggi Green Energy		4,296	6,893	11,189
Link City PFV Inc.		5,452	18,396	23,848
Noeul Green Energy Co.,Ltd.		1,886	726	2,612
Pohang E&E Co., Ltd.		6,391	5,755	12,146
FQM Australia Holdings Pty Ltd		-	252,727	252,727
	₩	202,691	270,487	473,178

12. Joint Operations

Details of significant joint operations that the Company is participating in as a party to a joint arrangement as of December 31, 2023 are as follows:

Joint operations	Operation	Ownership (%)	Location
Myanmar A-1/A-3 mine	Mine development and gas production	51.00	Myanmar
Offshore midstream	Gas transportation facility	51.00	Myanmar
Greenhills Mine(*1)	Mine development	20.00	Canada
Mt. Thorley J/V	Mine development	20.00	Australia
POSMAC J/V	Mine development	20.00	Australia
Samcheok Thermal Power Plant EPC			
(Unit 1,2) Construction Work	Construction	49.00	Korea
Sinansan Line Double Track Train Private			
Investment project construction work	Construction	36.00	Korea
Panama Metro Line 3 Project			
construction work	Construction	20.00	Panama
2*600 MW Matarbari Ultra Super Critical			
Coal-Fired Power construction work	Construction	67.00	Bangladesh
Yangsan Sasong 2nd Apartment Project			
(B5,6,7,9 Block) Construction work	Construction	49.00	Korea
Yongmun 123 Construction work			
Reconstruction Maintenance Project	Construction	70.00	Korea
Songdo B5 Block office Complex Project			
Construction work	Construction	80.00	Korea
Particle Accelerator Facility			
Construction work	Construction	55.00	Korea
Anyang Jinheung Apartment			
Construction work	Construction	45.00	Korea

(*1) As of December 31, 2023, the joint operation is classified as assets and liablities held for sale.

13. Investment Property, Net

(a) Investment property as of December 31, 2023 and 2022 are as follows:

(in millions of Won)			2023			2022				
		Acquisition cost	Accumulated depreciation and impairment loss	Book value	Acquisition cost	Accumulated depreciation and impairment loss	Book value			
Land	₩	804,022	(16,718)	787,304	325,241	(16,718)	308,523			
Buildings		905,649	(249,863)	655,786	825,183	(231,678)	593,505			
Structures		3,384	(1,511)	1,873	3,569	(2,213)	1,356			
Right of use assets		208,036	(36,705)	171,331	206,166	(35,519)	170,647			
	₩	1,921,091	(304,797)	1,616,294	1,360,159	(286,128)	1,074,031			

As of December 31, 2023, the fair value of investment property is W2,477,766 million.

- (b) Changes in the carrying amount of investment property for the years ended December 31, 2023 and 2022 were as follows:
 - 1) For the year ended December 31, 2023

				Business				
(in millions of Won)	_	Beginning	Acquisitions	Combination(*2)	Disposals	Depreciation	Others(*1)	Ending
Land	₩	308,523	54,891	473,301	(60)	-	(49,351)	787,304
Buildings		593,505	1,006	83,739	(303)	(28,902)	6,741	655,786
Structures		1,356	-	-	-	(1,049)	1,566	1,873
Right of use assets		170,647	216	-	(78)	(5,635)	6,181	171,331
	₩	1,074,031	56,113	557,040	(441)	(35,586)	(34,863)	1,616,294

- (*1) Includes reclassification resulting from changing purpose of use, adjustment of foreign currency translation difference and others.
- (*2) Represents increases in investment property due to business combination upon reclassification of QSONE Co.,Ltd. into a subsidiary during the year ended December 31, 2023.

2) For the year ended December 31, 2022

(in millions of Won)	_	Beginning	Acquisitions	Disposals	Depreciation	Others(*1)	Ending
Land	₩	332,308	-	(2,921)	-	(20,864)	308,523
Buildings		584,549	1,661	(34)	(28,336)	35,665	593,505
Structures		753	-	-	(797)	1,400	1,356
Right of use assets	_	168,467		(21,151)	(6,888)	30,219	170,647
	₩.	1,086,077	1,661	(24,106)	(36,021)	46,420	1,074,031

(*1) Includes reclassification resulting from changing purpose of use, adjustment of foreign currency translation difference and others.

14. Property, Plant and Equipment, Net

(a) Property, plant and equipment as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		202	3			202	2			
		Accumulated		Accumulated						
	Acquisition	depreciation	Government		Acquisition	depreciation	Government			
	cost	and	grants	Book value	cost	and	grants	Book value		
Land W	3,295,768	(5,524)	-	3,290,244	3,103,218	(53)	-	3,103,165		
Buildings	10,671,833	(6,237,883)	(6,318)	4,427,632	10,102,634	(5,922,285)	(5,455)	4,174,894		
Structures	7,159,034	(4,077,472)	(38)	3,081,524	6,989,634	(3,826,658)	(49)	3,162,927		
Machinery and equipment	54,184,134	(37,630,472)	(14,470)	16,539,192	52,198,121	(35,767,810)	(7,481)	16,422,830		
Vehicles	383,891	(302,246)	(2,050)	79,595	337,932	(284,897)	(904)	52,131		
Tools	557,394	(428,215)	(314)	128,865	497,173	(405,844)	(368)	90,961		
Furniture and fixtures	840,366	(650,424)	(55)	189,887	796,405	(622,944)	(116)	173,345		
Lease assets	1,468,295	(469,990)	-	998,305	1,299,779	(378,581)	-	921,198		
Bearer plants	186,723	(49,392)	-	137,331	180,486	(38,766)	-	141,720		
Construction-in-progress	6,421,533	(76,357)	(11,503)	6,333,673	3,621,269	(73,267)	(9,978)	3,538,024		
W	85,168,971	(49,927,975)	(34,748)	35,206,248	79,126,651	(47,321,105)	(24,351)	31,781,195		

(b) Changes in the carrying amount of property, plant and equipment for the years ended December 31, 2023 and 2022 were as follows:

1) For the year ended December 31, 2023

(in millions of Won)		Beginning	Acquisitions	Business Combination(*2)	Disposals	Depreciation	Impairment loss(*3,4)	Others(*1)	Ending
Land	₩	3,103,165	83,489	32,565	(7,502)	-	(5,471)	83,998	3,290,244
Buildings		4,174,894	53,344	5,770	(14,619)	(326,280)	(28,614)	563,137	4,427,632
Structures		3,162,927	16,498	3,651	(6,915)	(261,970)	(28,483)	195,816	3,081,524
Machinery and equipment		16,422,830	211,181	-	(63,195)	(2,401,947)	(202,885)	2,573,208	16,539,192
Vehicles		52,131	34,004	-	(782)	(26,322)	-	20,564	79,595
Tools		90,961	40,170	-	(607)	(52,444)	(77)	50,862	128,865
Furniture and fixtures		173,345	36,975	655	(1,516)	(61,947)	(63)	42,438	189,887
Lease assets		921,198	243,433	-	(15,095)	(170,386)	-	19,155	998,305
Bearer plants		141,720	-	-	-	(9,579)	-	5,190	137,331
Construction-in-progress		3,538,025	6,388,837	-	(2,269)	-	(8,420)	(3,582,500)	6,333,673
	₩	31,781,196	7,107,931	42,641	(112,500)	(3,310,875)	(274,013)	(28,132)	35,206,248

- (*1) Represents assets transferred from construction-in-progress to intangible assets and other property, plant and equipment, reclassifications resulting from changing purpose of use, adjustments of foreign currency translation differences and others.
- (*2) Represents increases in property, plant and equipment upon reclassification of QSONE Co.,Ltd., which was previously an associate, into a subsidiary by acquiring additional shares during the year ended December 31, 2023.
- (*3) The Company terminated operations of certain portions of the lithium production facilities and others located in Gwangyang and Argentina due to changes in operation plans. The Company estimated the recoverable amount of these assets at the net fair value, and recognized an impairment loss of W196,207 million since recoverable amounts are less than their carrying amounts.
- (*4) The Company identified impairment indications for the hydrogen peroxide production facilities located in Gwangyang due to fluctuations in raw material prices and changes in production plans. The Company estimated the recoverable amount of these assets at the net fair value, and recognized an impairment loss of W46,535 million since recoverable amounts are less than their carrying amounts.

2) For the year ended December 31, 2022

(in millions of Won)	Beginning	Acquisitions	Business Combination(*2)	Disposals	Depreciation	Impairment loss(*3)	Others(*1)	Ending
Land ₩	2,702,715	89,357	248,858	(1,247)	-	-	63,482	3,103,165
Buildings	4,204,450	127,837	37,741	(9,957)	(317,350)	(11,230)	143,403	4,174,894
Structures	3,131,795	82,130	38,535	(3,274)	(253,996)	(5,084)	172,821	3,162,927
Machinery and equipment	16,420,156	597,172	1,216	(33,511)	(2,303,917)	(184,706)	1,926,420	16,422,830
Vehicles	46,030	15,592	902	(1,017)	(18,717)	(123)	9,464	52,131
Tools	77,795	32,386	203	(187)	(37,170)	(351)	18,285	90,961
Furniture and fixtures	166,162	33,936	1,963	(1,175)	(59,359)	(1,990)	33,808	173,345
Lease assets	867,746	184,260	193,572	(22,029)	(168,521)	-	(133,830)	921,198
Bearer plants	154,682	-	-	-	(9,691)	-	(3,271)	141,720
Construction-in-progress	1,825,167	3,947,703	11,111	(383)	-	(9,699)	(2,235,875)	3,538,024
W	29,596,698	5,110,373	534,101	(72,780)	(3,168,721)	(213, 183)	(5,293)	31,781,195

- (*1) Represents assets transferred from construction-in-progress to intangible assets and other property, plant and equipment, reclassifications resulting from changing purpose of use, adjustments of foreign currency translation differences and others.
- (*2) Represents increases in property, plant and equipment due to business combination upon acquisition of Senex Energy Limited during the year ended December 31, 2022.
- (*3) The Company estimated the recoverable amount of damaged assets due to the flooding of Naengcheon stream in Pohang at the net fair value, and recognized an impairment loss of W207,072 million since recoverable amounts are less than their carrying amounts.
- (c) Borrowing costs capitalized and the capitalized interest rate for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)	_	2023	2022
Weighted average expenditure	₩	3,585,047	1,657,425
Borrowing costs capitalized		126,260	44,264
Capitalization rate (%)		1.53 ~ 6.91	2.39 ~ 3.85

(d) Property, plant and equipment and investment property pledged as collateral as of December 31, 2023 and 2022 are as follows:

(in millions of Won)			Book v	/alue
	Collateral right holder		2023	2022
Land	Korean Development Bank and others	₩	1,100,811	1,161,696
Buildings and structures	Korean Development Bank and others		1,410,864	1,449,066
Machinery and equipment	Korean Development Bank and others		2,014,210	2,123,621
		₩	4,525,885	4.734.383

As of December 31, 2023, assets pledged as collateral related to the Company's borrowings and others amounting to W6,643,746 million include investment properties and other assets such as right to use land.

- (e) Changes in the carrying amount of right of use assets presented as investment property and property, plant and equipment for the years ended December 31, 2023 and 2022 were as follows:
 - 1) For the year ended December 31, 2023

(in millions of Won)		Beginning	Acquisitions	Depreciation	Others	Ending
Land	₩	368,167	10,470	(15,582)	734	363,789
Buildings and structures		163,648	49,929	(52,697)	(9,514)	151,366
Machinery and equipment		319,021	73,761	(55,481)	18,303	355,604
Vehicles		18,652	38,410	(16,456)	7,622	48,228
Ships		215,496	28,178	(22,920)	-	220,754
others		6,862	42,901	(12,885)	(6,983)	29,895
	₩	1,091,846	243,649	(176,021)	10,162	1,169,636

2) For the year ended December 31, 2022

(in millions of Won)	_	Beginning	Acquisitions	Business Combination(*1)	Depreciation	Others	Ending
Land	₩	391,446	18,077		(16,843)	(24,513)	368,167
Buildings and structures		143,854	74,454	6,714	(50,397)	(10,977)	163,648
Machinery and equipment		256,205	43,088	175,795	(56,333)	(99,734)	319,021
Vehicles		14,753	12,467	98	(12,015)	3,349	18,652
Ships		210,056	23,793	-	(18,355)	2	215,496
others		19,899	12,381	10,965	(21,467)	(14,916)	6,862
	₩.	1,036,213	184,260	193,572	(175,410)	(146,789)	1,091,846

- (*1) Represents increases in right-in-use assets upon acquisition of Senex Energy Limited during the year ended December 31, 2022.
- (f) The amount recognized in profit or loss related to leases for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)	_	2023	2022
Interest on lease liabilities	\mathbf{W}	41,109	34,936
Expenses related to short-term leases		52,486	29,931
Expenses related to leases of low-value assets		20,103	17,877
	₩	113,698	82,744

15. Goodwill and Other Intangible Assets, Net,

(a) Goodwill and other intangible assets as of December 31, 2023 and 2022 are as follows:

(in millions of Won)			2023	1			2022	2	
		Acquisition cost	Accumulated amortization and impairment loss	Government grants	Book value	Acquisition cost	Accumulated amortization and impairment loss	Government grants	Book value
Goodwill	₩	1,720,753	(1,317,581)	-	403,172	1,723,974	(1,281,487)	-	442,487
Intellectual property rights		5,167,677	(2,138,026)	-	3,029,651	4,944,973	(1,808,901)	-	3,136,072
Membership		141,306	(3,122)	-	138,184	135,905	(2,963)	-	132,942
Development expense		758,878	(631,974)	(86)	126,818	687,437	(571,266)	-	116,171
Port facilities usage rights		681,530	(499,119)	-	182,411	681,530	(484,319)	-	197,211
Exploration and evaluation assets		324,324	(160,878)	-	163,446	260,548	(159,557)	-	100,991
Development assets		10,235	-	-	10,235	78,970	-	-	78,970
Customer relationships		865,753	(668,858)	-	196,895	865,691	(624,380)	-	241,311
Other intangible assets		1,260,067	(796,052)	(43)	463,972	1,175,409	(783,088)	(25)	392,296
	₩	10,930,523	(6,215,610)	(129)	4,714,784	10,554,437	(5,715,961)	(25)	4,838,451

(b) The changes in carrying amount of goodwill and other intangible assets for the years ended December 31, 2023 and 2022 were as follows:

1) For the year ended December 31, 2023

						Impairment		
(in millions of Won)	-	Beginning	Acquisitions	Disposals	Amortization	loss(*3)	Others(*2)	Ending
Goodwill	₩	442,487	-	-	-	(36,093)	(3,222)	403,172
Intellectual property rights		3,136,072	208,874	(5)	(321,752)	(89,986)	96,448	3,029,651
Membership(*1)		132,942	7,360	(1,920)	(170)	11	(39)	138,184
Development expense		116,171	13,130	(97)	(73,319)	-	70,933	126,818
Port facilities usage rights		197,211	-	-	(14,800)	-	-	182,411
Exploratation and evaluation assets		100,991	67,000	-	-	(1,204)	(3,341)	163,446
Development assets		78,970	27,831	-	-	-	(96,566)	10,235
Customer relationships		241,311	-	-	(44,478)	-	62	196,895
Other intangible assets		392,296	139,100	(625)	(43,674)	(2,055)	(21,070)	463,972
	₩	4,838,451	463,295	(2,647)	(498, 193)	(129,327)	43,205	4,714,784

(*1) Economic useful life of membership is indefinite.

- (*2) Represents assets transferred from construction-in-progress to intangible asset and assets transferred from property, plant and equipment, adjustments of foreign currency translation difference and others.
- (*3) During the year ended December 31, 2023, POSCO Canada Ltd., a subsidiary, decided to make an investment in kind the Greenhills Mine, which is recognized as a joint operation, to a new partnership established by Teck Coal Partnership, the main operator. POSCO Canada Ltd. estimated the recoverable amount considering the fair value and acquired shares of the new partnership, and recognized an impairment loss of W88,518 million since recoverable amounts are less than their carrying amounts.

2) For the year ended December 31, 2022

(in millions of Won)	-	Beginning	Acquisitions	Business Combination (*3,4)	Disposals	Amortization	Impairment loss(*5)	Others(*2)	Ending
Goodwill	₩	735,969	-	66,206	-	-	(369,337)	9,649	442,487
Intellectual property rights		2,225,808	354,179	912,971	(582)	(326,494)	379	(30,189)	3,136,072
Membership(*1)		142,370	9,230	-	(2,082)	(145)	854	(17,285)	132,942
Development expense		153,973	1,800	-	(13)	(67,446)	(1,046)	28,903	116,171
Port facilities usage rights		216,021	-	-	-	(14,800)	-	(4,010)	197,211
Exploratation and evaluation assets		61,957	24,583	21,266	-	-	-	(6,815)	100,991
Development assets		-	6,607	76,591	-	-	-	(4,228)	78,970
Customer relationships		285,720	-	-	-	(44,478)	-	69	241,311
Other intangible assets		344,491	99,388	26,649	(145)	(35,472)	(232)	(42,383)	392,296
	₩	4,166,309	495,787	1,103,683	(2,822)	(488,835)	(369,382)	(66,289)	4,838,451

- (*1) Economic useful life of membership is indefinite.
- (*2) Represents assets transferred from construction-in-progress to intangible assets and assets transferred from property, plant and equipment, adjustments of foreign currency translation difference and others.
- (*3) Represents increases in intangible assets upon acquisition of Senex Energy Limited during the year ended December 31, 2022.
- (*4) Represents increases in intangible assets upon acquisition of POSCO Silicon Solution Co., Ltd during the year ended December 31, 2022.
- (*5) During the year ended December 31, 2022, impairment loss of W337,953 million on goodwill of POSCO INTERNATIONAL Corporation, a subsidiary included in trading segment of green infrastructure, was recognized as the recoverable amount is less than the carrying amount of the CGU.
- (c) For the purpose of impairment testing, goodwill is allocated to individually operating entities each of which is determined to be a CGU. The goodwill amounts as of December 31, 2023 and 2022 are as follows:

			er of CGUs	_			
Reporting	segments	2023	2022	CGUs		2023	2022
Steel		10	10	POSCO VST CO., LTD.	W	36,955	36,955
				POSCO Center Beijing		173	173
				Others		13,806	13,741
Green	Trading	4	4	POSCO INTERNATIONAL Corporation -			
frastructure				Global Business Division(*1)		240,092	240,092
				POSCO INTERNATIONAL Corporation -		26,471	26,471
				Energy Division		20,471	20,471
				Others		7,513	7,270
	E&C	2	2	POSCO Eco & Challenge Co., Ltd.		-	24,868
				POSCO WIDE Co., Ltd		32,585	35,728
	Logistics,etc	1	1	Shinan Green Energy Co.,LTD.		9,722	17,804
Green	-	3	3	POSCO FUTURE M CO., LTD		8,800	8,800
Materials				POSCO Silicon Solution Co., Ltd		26,947	30,477
				Zhangjiagang Pohang Refractories Co., Ltd.		108	108
		20	20		w -	403,172	442,487

(*1) The recoverable amount of POSCO INTERNATIONAL Corporation – Global Business Division, a subsidiary in trading segment of the green infrastructure business, is determined based on its value in use. As of December 31, 2023, the value in use is estimated by applying an 7.73% (2022: 8.97%) post-tax discount rate to the future cash flows estimated based on management's 5-year business plan and terminal growth rate of 1.0% (2022: 1.7%) thereafter. The terminal growth rate does not exceed long-term growth rate of its industry. No impairment loss on goodwill was recognized for the year ended December 31, 2023 as the recoverable amount exceeded the carrying amount of the CGU. The Company calculated the value in use by discounting the post-tax cash flows at the post-tax discount rate, which is materially the same as applying pre-tax discount rate of 10.38% (2022: 11.54%) to pre-tax cash flows.

The value in use of the CGU is sensitive to assumptions such as discount rate, terminal growth and estimated revenue used in discount cash flow model. If the discount rate increases by 0.5%, the value in use would have decreased by W304,741 million or 7.96%. If the terminal growth rate decreases by 0.5%, the value in use would have decreased by W106,403 million or 2.78%.

16. Other Assets

Other current assets and other non-current assets as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Current			
Advance payments	\mathbf{W}	593,300	782,439
Prepaid expenses		226,960	263,536
Firm commitment asset		3,418	9,674
Other current assets		17,306	20,290
	₩	840,984	1,075,939
Non-current			
Long-term advance payments	₩	46,989	23,429
Long-term prepaid expenses		30,232	53,803
Others(*1)		95,974	90,143
	₩	173,195	167,375

(*1) As of December 31, 2023, there is no estimated tax amounts to be refunded as the result of the Company's appeal in connection with the additional income tax payment in prior years' tax audits and claim for rectification. As of December 31, 2022, the Company recognized tax assets amounting to W6,764 million, based on the Company's best estimate of the tax amounts to be refunded when the result of the Company's appeal in connection with the additional income tax payment in prior years' tax audits and claim for rectification are finalized.

17. Borrowings

(a) Short-term borrowings and current portion of long-term borrowings as of December 31, 2023 and 2022 are as follows:

	Lenders	Issuance date	Maturity date	Interest rate (%)		2023	2022
Short-term borrowings							
Bank overdrafts	JP Morgan and others	January, 2023~	January, 2024~				
		December, 2023	December, 2024	3.65 ~ 7.72	₩	69,160	197,718
Short-term borrowings	HSBC and others	December, 2022~	January, 2024~				
		December, 2023	December, 2024	0.22 ~ 49.69	-	4,890,120	6,635,402
						4,959,280	6,833,120
Current portion of long-term liabilities							
Current portion of long-term borrowings	Export-Import Bank of	September, 2001~	April, 2024~				
	Korea and others	March, 2023	December, 2024	0.25 ~ 8.69		990,088	2,302,592
Current portion of debentures	KB Securities co.,Ltd. and	March, 2019~	January, 2024~				
	others	October, 2021	October, 2024	1.51 ~ 2.52		3,255,375	2,782,049
Less: Current portion of							
discount on debentures issued						(2,217)	(1,767)
Current portion of exchangable bonds	Foreign currency exchangable bonds	September, 2021	September, 2026		_	1,756,691	-
					_	5,999,937	5,082,874
					₩	10 959 217	11 915 994

(b) Long-term borrowings, excluding current portion as of December 31, 2023 and 2022 are as follows:

(in millions of Won)							
	Lenders	Issuance date	Maturity date	Interest rate (%)		2023	2022
Long-term borrowings	Export-Import Bank of	September, 2001~	January, 2025~				
Less: Present value discount	Korea and others	December, 2023	March, 2040	0.19 ~ 8.69	₩	4,590,541 (9,414)	2,718,212 (8,951)
Bonds	KB Securities co.,Ltd. and others	July, 2015~ November, 2023	January, 2025~ January, 2033	1.68 ~ 6.85		10,478,394	8,351,006
Less: Discount on debentures issued Exchangeable bonds(*1.2)	Foreign currency	September, 2021	September, 2026			(48,358)	(28,894)
Exchangeable bonds(~1,2)	exchangeable bonds	September, 2021	September, 2026		_		1,358,294
					₩.	15,011,163	12,389,667

- (*1) As of December 31, 2023, exchangeable bonds were reclassified as current liabilities because the bondholders' put option for redemption is exercisable within 12 months.
- (*2) The issuance conditions of the exchangeable bonds issued by the Company are as follows :

	Foreign currency exchangable bonds
Type of bond	Exchangable bonds
Aggregate principal amount	EUR 1,065,900,000
Interest rate	- Coupon rate :- - Yield to Maturity:(0.78%)
Maturity date	September 1, 2026
,	1) Redemption at Maturity : Outstanding bond principal, which is not repaid early or which call
Redemption	option is not exercised on, is repaid at maturity as a lump sum
···· · · · · · · · · · · · · · · ·	2) Prepayment : The issuer has call option and the bondholders have put option
Exchange rate	100%
Exchange price (Won/share)	449,066(*)
Underlying shares exchange	Registered common shares(treasury shares)
Exchange period	From October 12, 2021 to August 22, 2026
Adjustments for exchange price	Adjusting the exchange price according to the terms and conditions of the bond in the events of reason for adjusting the exchange price such as, bonus issue, share split, share consolidation, change of share type, issuance of options or warranties to shareholders, share dividend, cash dividend, issuance of new shares under the market price.
Put option by bondholders	 - 3 years(September 1, 2024) from the closing date - In the event of a change of control of the Company - Where the shares issued by the Company are delisted (or suspended for more than 30 consecutive trading days)
Call option by the Issuer	 Share price(based on closing price) is higher than 130% of exchange price for more than 20 trading days during 30 consecutive trading days in a row, after 3 years (September 1, 2024) from the closing day to 30 business days before the maturity of bonds. When the outstanding balance of outstanding bonds is less than 10% of the total issuance(Clean-Up Call) Where additional reasons for tax burden arise due to the amendment of relevant laws and regulations, etc.

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(*) The exchange value has changed due to cash dividends during the year ended December 31, 2023.

The Company has designated exchangeable bonds listed on the Singapore Stock Exchange as financial liabilities measured at fair value through profit or loss. The quoted transaction price is used in fair value valuation, and changes in fair value are recognized in profit or loss.

(c) Assets pledged as collateral with regard to the borrowings as of December 31, 2023 are as follows:

(in millions of Won)	Lenders		n) Lenders		Book value	Pledged amount
Property, plant and equipment and Investment property	Korea Development Bank and others	₩	4,391,431	5,925,533		
Trade accounts and notes receivable	Korea Development Bank and others		132,942	132,942		
Financial instruments	Woori Bank and others		36,018	36,018		
		₩	4,560,391	6,094,493		

18. Other Payables

Other payables as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Current			
Accounts payable	\overline{W}	1,174,097	1,423,402
Accrued expenses		1,046,891	981,609
Dividend payable		3,261	4,371
Lease liabilities		163,952	149,384
Withholdings		349,277	307,102
	₩	2,737,478	2,865,868
Non-current			
Accounts payable	₩	14,143	15,713
Accrued expenses		8,073	8,102
Lease liabilities		760,368	674,098
Long-term withholdings		90,981	92,489
-	₩	873,565	790,402

19. Other Financial Liabilities

Other financial liabilities as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Current			
Derivative liabilities	\mathbf{W}	38,631	95,157
Financial guarantee liabilities		5,114	11,370
Others(*1)		119,881	-
	₩	163,626	106,527
Non-current			
Derivative liabilities	\mathbf{W}	81,291	79,984
Financial guarantee liabilities		7,858	7,068
Others		64,633	-
	₩	153,782	87,052

(*1) The Company recognized other financial liabilities in connection with the put option agreement which POSCO FUTURE MATERIALS CANADA INC. (formerly, POSCO CHEMICAL CANADA INC.), a subsidiary, entered into with GM Battery Raw Materials Corporation.

20. Provisions

(a) Provisions as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		20	23	2022		
	_	Current	Non-current	Current	Non-current	
Provision for bonus payments	₩	146,277	38,114	136,275	33,157	
Provision for construction warranties		50,222	146,536	35,702	170,272	
Provision for legal contingencies and claims(*1)		20,893	52,169	46,823	59,518	
Provision for the restoration(*2,3)		14,567	161,253	6,049	185,097	
Others(*4,5,6)		187,785	69,937	291,139	131,874	
	₩	419,744	468,009	515,988	579,918	

- (*1) The Company recognized probable outflow of resources amounting to W45,712 million and W52,530 million as provisions for legal contingencies and asserted claim in relation to lawsuits against the Company as of December 31, 2023 and 2022, respectively.
- (*2) Due to contamination of lands near the Company's magnesium smelting plant located in Gangneung province and others, the Company recognized present values of estimated costs for recovery amounting to W17,005 million as provisions for restoration as of December 31, 2023. In order to determine the estimated costs, the Company has assumed that it would use all of technologies and materials available for now to recover the land. In addition, the Company has applied a discount rate of 3.77%~3.89% to measure present value of these costs.
- (*3) During the year ended December 31, 2023, due to contamination of river water quality near Greenhills Mine owned as joint operation by POSCO Canada Ltd., the Company calculated present value of estimated costs for recovery amounting to W119,710 million as provisions for improvement and reclassified as liabilities held for sale as of December 31, 2023.
- (*4) As of December 31, 2023 and December 31, 2022, POSCO INTERNATIONAL Corporation and Korea Fuel Cell, recognized W23,224 million and W97,928 million of provisions for warranties, respectively, for the service contract on fuel cell based on its estimate of probable outflow of resources.
- (*5) As of December 31, 2023 and December 31, 2022, the Company has recognized emission liabilities amounting to W9,065 million and W14,178 million respectively, for expected greenhouse gas emissions exceeding the quantity of free quota emission rights.
- (*6) According to the Act on the promotion of the development, use and diffusion of new and renewable energy, POSCO INTERNATIONAL Corporation is obliged to supply a certain amount of power generated by new and renewable energy. In accordance with the Act, POSCO INTERNATIONAL Corporation estimated the cost required to fulfill its obligations, such as insufficient supply of power using new and renewable energy to be borne, and as of December 31, 2023 and December 31, 2022, the Company recognized W64, 166 million and W123,073 million, respectively, as provision liabilities.

(b) The following are the key assumptions concerning the future and other key sources of estimation uncertainties at the end of the reporting period.

	Key assumptions for the estimation
Provision for bonus payments	Estimations based on financial performance and service provided
Provision for construction warranties	Estimations based on historical warranty data
Provision for legal contingencies and claims	Estimations based on the degree of probability of an unfavorable outcome and the ability to make a sufficient reliable estimate of the amount of loss

(c) Changes in provisions for the years ended December 31, 2023 and 2022 were as follows:

1) For the year ended December 31, 2023

(in millions of Won)	_	Beginning	Increase	Utilization	Reversal	Others(*1)	Ending
Provision for bonus payments	₩	169,432	181,221	(158,529)	(6,063)	(1,670)	184,391
Provision for construction warranties		205,974	42,653	(49,117)	(8,350)	5,598	196,758
Provision for legal contingencies and claims		106,341	16,327	(48,144)	(3,599)	2,137	73,062
Provision for the restoration		191,146	104,227	(9,887)	(80)	(109,586)	175,820
Others		423,013	189,227	(255,001)	(112,909)	13,392	257,722
	₩_	1,095,906	533,655	(520,678)	(131,001)	(90,129)	887,753

(*1) Includes transfer to liabilities held for sale and adjustments of foreign currency translation differences and others.

2) For the year ended December 31, 2022

(in millions of Won)	-	Beginning	Increase	Utilization	Reversal	Others(*1)	Ending
Provision for bonus payments	₩	138,533	176,677	(137,092)	(5,813)	(2,873)	169,432
Provision for construction warranties		236,660	52,438	(73,853)	(8,287)	(984)	205,974
Provision for legal contingencies and claims		93,491	47,344	(33,175)	(8,654)	7,335	106,341
Provision for the restoration		159,531	45,130	(43,168)	(1,299)	30,952	191,146
Others		360,861	317,621	(203,985)	(60,738)	9,254	423,013
	₩.	989,076	639,210	(491,273)	(84,791)	43,684	1,095,906

(*1) Includes adjustments of foreign currency translation differences and others.

21. Employee Benefits

(a) Defined contribution plans

The expenses related to post-employment benefit plans under defined contribution plans for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)	_	2023	2022
Expense related to post-employment benefit plans under defined contribution plans	₩	70,394	62,467

(b) Defined benefit plans

1) The amounts recognized in relation to net defined benefit liabilities in the statements of financial position as of December 31, 2023 and 2022 are as follows:

(in millions of Won)	_	2023	2022
Present value of funded obligations	₩	2,445,797	2,200,127
Fair value of plan assets(*1)		(2,902,714)	(2,703,639)
Present value of non-funded obligations	_	30,912	20,560
Net defined benefit liabilities	₩.	(426,005)	(482,952)

- (*1) As of December 31, 2023 and 2022, the Company recognized net defined benefit assets amounting to W464,758 million and W520,659 million, respectively, since there are consolidated entities whose fair value of plan assets exceeded the present value of defined benefit obligations.
- 2) Changes in present value of defined benefit obligations for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)	_	2023	2022
Defined benefit obligations at the beginning of period	₩	2,220,687	2,415,031
Current service costs		235,340	235,007
Interest costs		97,660	71,348
Remeasurements :		178,649	(192,339)
- Loss (gain) from change in financial assumptions		165,919	(381,800)
- Loss (gain) from change in demographic assumptions		(16,094)	(621)
- Loss (gain) from change in others		28,824	190,082
Benefits paid		(263,547)	(300,353)
Others	_	7,920	(8,007)
Defined benefit obligations at the end of period	₩.	2,476,709	2,220,687

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3) Changes in fair value of plan assets for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)	_	2023	2022
Fair value of plan assets at the beginning of period	₩	2,703,639	2,620,046
Interest on plan assets		126,386	77,745
Remeasurement of plan assets		22,400	(57,335)
Contributions to plan assets		279,225	346,773
Benefits paid		(233,689)	(287,312)
Others	_	4,753	3,722
Fair value of plan assets at the end of period	₩	2,902,714	2,703,639

The Company expects to make an estimated contribution of W281,169 million to the defined benefit plan assets in 2024.

4) The fair value of plan assets as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Equity instruments	₩	6,867	5,949
Debt instruments		529,313	758,250
Deposits		2,155,063	1,813,863
Others		211,471	125,577
	₩	2,902,714	2,703,639

5) The amounts recognized in consolidated statement of comprehensive income for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)

		2023	2022
Current service costs	\mathbf{W}	235,340	235,007
Net interest costs(*1)		(28,726)	(6,397)
	\mathbf{W}	206,614	228,610

. . . .

. . . .

(*1) The actual return on plan assets amounted to ₩148,786 million and ₩20,410 million for the years ended December 31, 2023 and 2022, respectively.

The above expenses by function were as follows:

(in millions of Won)	-	2023	2022
Cost of sales	₩	135,687	156,576
Selling and administrative expenses		70,746	71,060
Others	_	181	974
	₩	206,614	228,610

6) Accumulated actuarial gains (losses), net of tax recognized in other comprehensive income for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)	-	2023	2022
Beginning	₩	(396,296)	(502,065)
Remeasurements of defined benefit plans	_	(118,548)	105,769
Ending	₩	(514,844)	(396,296)

7) The principal actuarial assumptions as of December 31, 2023 and 2022 are as follows:

(%)	2023	2022
Discount rate	0.92 ~ 7.60	2.00 ~ 7.60
Expected future increase in salaries(*1)	2.30 ~ 28.11	1.50 ~ 12.20

(*1) The expected future increase in salaries is based on the average salary increase rate for the past 5 years.

All assumptions are reviewed at the end of the reporting period. Additionally, the total estimated defined benefit obligation includes actuarial assumptions associated with the long-term characteristics of the defined benefit plan.

8) Reasonably possible changes at the reporting date to one of the relevant actuarial assumptions, holding the other assumptions constant, would have affected the defined benefit obligation by the amounts shown below:

(in millions of Won)		1% Increase		1% Increase		1% De	crease
	_	Amount	Percentage(%)	Amount	Percentage(%)		
Discount rate	₩	(151,746)	(6.1)	172,840	7.0		
Expected future increase in salaries		171,615	6.9	(153,433)	(6.2)		

9) As of December 31, 2023 the maturity of the expected benefit payments are as follows:

(in millions of Won)	Within 1 year	1 year _ 5 years	5 years 10 years	10 years - 20 years	After 20 years	Total
Benefits to be paid $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	305,269	1,000,746	743,159	1,018,133	404,773	3,472,080

The maturity analysis of the defined benefit obligation was nominal amounts of defined benefit obligations using expected remaining period of service of employees.

22. Other Liabilities

Other liabilities as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Current			
Due to customers for contract work	W	624,632	761,393
Advances received		304,441	535,885
Unearned revenue		69,062	62,030
Withholdings		297,442	369,067
Firm commitment liability		20,136	7,566
Others(*1)		21,929	24,375
	W	1,337,642	1,760,316
Non-current			
Unearned revenue	W	8,889	22,203
Others(*1)		105,583	129,674
	₩	114,472	151,877

(*1) As of December 31, 2023 and December 31, 2022, the Company recognized the acquired liability amounted to W56,325 million and W71,248 million, respectively related to unfavorable terms of a customer contract relative to market-terms upon the acquisition of Senex Energy Limited.

23. Financial Instruments

- (a) Classification and fair value of financial instruments
 - 1) The carrying amount and the fair values of financial assets and financial liabilities by fair value hierarchy as of December 31, 2023 and 2022 are as follows:
 - ① December 31, 2023

(in millions of Won)				Fair val	9	
		Book value	Level 1	Level 2	Level 3	Total
Financial assets						
Fair value through profit or loss						
Derivative assets	₩	291,541	-	291,541	-	291,541
Short-term financial instruments		6,540,407	-	6,540,407	-	6,540,407
Equity securities		99,254	61,665	-	37,589	99,254
Debt securities		88,196	-	75,183	13,013	88,196
Other securities		669,687	-	270	669,417	669,687
Derivative hedging instruments(*2)		9,601	-	9,601	-	9,601
Fair value through other comprehensive income						
Equity securities		1,694,277	1,539,205	-	155,072	1,694,277
Financial assets measured at amortized cost(*1)						
Cash and cash equivalents		6,670,879	-	-		
Trade accounts and notes receivable		9,155,853	-	-		
Other receivables		2,750,036	-	-	-	
Debt securities		295,201	-	-	-	
Deposit instruments		4,423,327	-	-	-	-
	₩	32,688,259	1,600,870	6,917,002	875,091	9,392,963
Financial liabilities						
Fair value through profit or loss						
Derivative liabilities	₩	116,748	-	116,748	-	116,748
Borrowings		1,756,691	1,756,691	-	-	1,756,691
Other financial Liabilities		119,258	-	-	119,258	119,258
Derivative hedging instruments(*2)		3,174	-	3,174	-	3,174
Financial liabilities measured at amortized cost(*1)						
Trade accounts and notes payable		5,782,825	-	-	-	
Borrowings		24,213,689	-	24,310,166	-	24,310,166
Financial guarantee liabilities		12,972	-	-	-	
Others		3,241,459	-	-	-	
Other financial Liabilities	_	65,256	<u> </u>	<u> </u>	-	
	W	35,312,072	1.756.691	24,430,088	119,258	26,306,037

- (*1) Fair value of financial assets and liabilities measured at amortized cost except borrowings approximates their carrying amounts.
- (*2) The Company applies hedge accounting which uses forward contracts as hedging instrument in order to hedge the risk of changes in fair value of product prices regarding firm commitments or purchase commitments. Also, the Company applies cash flow hedge accounting which uses currency swap as hedging instrument in order to hedge the risk of interest rate and foreign exchange rate changes in foreign currency which influences cash flow from borrowings.

(2) December 31, 2022

(in millions of Won)			Fair val	ue	
	Book value	Level 1	Level 2	Level 3	Total
Financial assets					
Fair value through profit or loss					
Derivative assets	₩ 350,149	-	350,149	-	350,149
Short-term financial instruments	8,006,081	-	8,006,081	-	8,006,081
Debt securities	75,876	-	69,926	5,950	75,876
Other securities	632,469	29,687	1,022	601,760	632,469
Other receivables	2,000	-	-	2,000	2,000
Derivative hedging instruments(*2)	9,846	-	9,846	-	9,846
Fair value through other comprehensive income					
Equity securities	1,462,088	1,210,124	-	251,964	1,462,088
Financial assets measured at amortized cost(*1)					
Cash and Cash Equivalents	8,053,108	-	-	-	-
Trade accounts and notes receivable	8,414,946	-	-	-	-
Other receivables	2,458,227	-	-	-	-
Debt securities	124,147	-	-	-	-
Deposit instruments	2,581,802		-	-	-
	₩ 32,170,739	1,239,811	8,437,024	861,674	10,538,509
Financial liabilities					
Fair value through profit or loss					
Derivative liabilities	₩ 157,036	-	157,036	-	157,036
Borrowings	1,358,294	1,358,294	-	-	1,358,294
Derivative hedging instruments(*2)	18,105	-	18,105	-	18,105
Financial liabilities measured at amortized cost(*1)					
Trade accounts and notes payable	5,520,821	-	-	-	-
Borrowings	22,947,368	-	22,331,771	-	22,331,771
Financial guarantee liabilities	18,438	-	-	-	-
Others	2,789,195		-		
	₩ 32.809.257	1,358,294	22,506,912		23.865.206

- (*1) Fair value of financial assets and liabilities measured at amortized cost except borrowings approximates their carrying amounts.
- (*2) The Company applies hedge accounting which uses forward contracts as hedging instrument in order to hedge the risk of changes in fair value of product prices regarding firm commitments or purchase commitments. Also, the Company applies cash flow hedge accounting which uses currency swap as hedging instrument in order to hedge the risk of interest rate and foreign exchange rate changes in foreign currency which influences cash flow from borrowings.
- 2) Financial assets and financial liabilities classified as fair value hierarchy Level 2

Fair values of derivatives are measured using the derivatives instrument valuation models such as discounted cash flow method. Inputs of the financial instrument valuation model include forward rate, interest rate and others. The fair value of derivatives may change depending on the type of derivatives and the nature of the underlying assets.

- 3) Financial assets classified as fair value hierarchy Level 3
 - Value measurement method and significant but not observable inputs for the financial assets classified as fair value hierarchy Level 3 as of December 31, 2023 are as follows:

(in millions of Won)						Effect on fair value assessment
		Fair value	Valuation technique	Inputs	Range of inputs	with unobservable input
Financial assets at fair value	₩	104.529	Discounted cash flows	Growth rate	0%~1.00%	As growth rate increases, fair value increases
		104,528	Discounted cash nows	Discount rate	9.64%~26.60%	As discount rate increases, fair value decreases
		113,626	Proxy firm valuation method	Price multiples	0.695~3.343	As price multiples increases, fair value increases
		656,936	Asset value approach	-	-	-

② Sensitivity analysis of financial assets classified as Level 3 of fair value hierarchy

If other inputs remain constant as of December 31, 2023 and one of the significant but not observable input is changed, the effect on fair value measurement is as follows:

(in millions of Won)			Favorable	Unfavorable
	Input variable	_	changes	changes
Financial assets at fair value	Fluctuation 0.5% of growth rate	₩	1,511	(1,308)
	Fluctuation 0.5% of discount rate		2,125	(1,938)

③ Changes in fair value of financial assets classified as Level 3 for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)	-	2023	2022
Beginning	₩	861,674	620,914
Acquisition		100,442	182,217
Gain (loss) on valuations of financial assets		39,621	24,613
Other comprehensive income (loss)		22,526	126,510
Disposal and others	-	(149,172)	(92,580)
Ending	₩.	875,091	861,674

4) Finance income and costs by category of financial instrument for the years ended December 31, 2023 and 2022 were as follows:

1) For the year ended December 31, 2023

(in millions of Won)		Finance income and costs							
		Interest income (expense)	Gain and loss on valuation	Gain and loss on foreign currency	Gain and loss on disposal	Others	Total	comprehensive income (loss)	
Financial assets at fair value									
through profit or loss	₩	-	520,884	-	190,531	560	711,975	-	
Derivative assets		-	167,997	-	289,423	-	457,420	-	
Financial assets at fair value									
through other comprehensive income		-	-	-	-	49,586	49,586	257,725	
Financial assets measured at									
amortized cost		502,147	-	211,077	(84,649)	(6,347)	622,228	-	
Financial liabilities at fair value		-	(305,562)	(92,835)	-	-	(398,397)	-	
Derivative liabilities		-	(44,323)	-	(276,600)	-	(320,923)	(1,292)	
Financial liabilities measured at									
amortized cost		(1,001,290)	-	(466,244)	11	(26,616)	(1,494,139)	-	
	₩	(499,143)	338,996	(348,002)	118,716	17,183	(372,250)	256,433	

(2) For the year ended December 31, 2022

(in millions of Won)		Finance income and costs							
		Interest income (expense)	Gain and loss on valuation	Gain and loss on foreign currency	Gain and loss on disposal	Others	Total	comprehensive income (loss)	
Financial assets at fair value through profit or loss	₩	20,421	(599,777)	-	237,771	545	(341,040)	-	
Derivative assets		-	232,246	-	797,211	-	1,029,457	-	
Financial assets at fair value through other comprehensive income Financial assets measured at		-	-	-	-	38,837	38,837	(10,076)	
amortized cost		226,584		414,944	(64,244)	(42,433)	534,851	-	
Financial liabilities at fair value		-	85,790	(8,891)	-	-	76,899	-	
Derivative liabilities Financial liabilities measured at		-	(162,649)	-	(647,418)	-	(810,067)	1,023	
amortized cost		(607,458)	-	(893,377)	-	1,443	(1,499,392)	-	
	₩.	(360,453)	(444,390)	(487,324)	323,320	(1,608)	(970,455)	(9,053)	

(b) Credit risk

1) Credit risk exposure

The carrying amount of financial assets represents the Company's maximum exposure to credit risk. The maximum exposure to credit risk as of December 31, 2023 and 2022 are as follows:

(in millions of Won)	-	2023	2022
Cash and cash equivalents	₩	6,670,879	8,053,108
Derivative assets		301,142	359,995
Short-term financial instrument		6,540,407	8,006,082
Debt securities		383,397	200,023
Other securities		669,687	632,469
Other receivables		2,750,036	2,460,227
Trade accounts and notes receivable		11,057,819	9,822,224
Deposit instruments	_	4,423,327	2,581,802
	\mathbf{W}	32,796,694	32,115,930

The Company provided financial guarantee for the repayment of loans of associates, joint ventures and third parties. As of December 31, 2023 and 2022, the maximum exposure to credit risk related to the financial guarantee amounted to W3,939,463 million and W3,982,288 million, respectively.

2) Impairment losses on financial assets and contract assets

The Company assesses expected credit losses by estimating the default rate based on the credit loss experience of prior periods and overdue conditions and considers the credit default swap (CDS) premium to reflect changes in credit risk by sector. For creditimpaired assets and significant receivables where the credit risk is significantly increased, credit losses are individually assessed.

① Allowance for doubtful accounts as of December 31, 2023 and 2022 are as follows:

(in millions of Won)	_	2023	2022
			070 400
Trade accounts and notes receivable	₩	330,898	378,100
Other accounts receivable		185,987	178,264
Loans		417,725	165,051
Others	_	18,119	9,098
	₩	952,729	730,513

② Impairment losses on financial assets for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)	-	2023	2022
Bad debt expenses Other bad debt expenses(*1)	₩	(17,785) 291,340	24,791 14,968
Less: Recovery of allowance for other bad debt accounts		(7,641)	(5,144)
	₩	265,914	34,615

- (*1) Other bad debt expenses are mainly related to loans and other accounts receivable.
- ③ The aging and allowance for doubtful accounts of trade accounts and notes receivable as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		20	23	2022		
	-	Trade accounts and notes receivable	Allowance for doubtful accounts	Trade accounts and notes receivable	Allowance for doubtful accounts	
Not due	₩	9,886,572	13,155	7,955,929	20,752	
Over due less than 1 month		681,782	5,448	864,391	63,311	
1 month - 3 months		131,267	3,521	388,151	10,337	
3 months - 12 months		291,774	27,248	517,171	12,645	
Over 12 months	_	397,322	281,526	446,045	271,055	
	₩_	11,388,717	330,898	10,171,687	378,100	

 The aging and allowance for doubtful accounts of other receivables as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		20	23	2022			
	_	oans and other count receivable	Allowance for doubtful accounts	Loans and other account receivable	Allowance for doubtful accounts		
Not due	₩	2,948,838	347,108	2,049,908	53,070		
Over due less than 1 month		29,653	40	141,718	2,987		
1 month - 3 months		56,574	1,812	108,152	16,408		
3 months - 12 months		133,081	91,621	24,912	930		
Over 12 months		203,712	181,240	487,950	279,018		
	₩	3,371,858	621,821	2,812,640	352,413		

(5) Changes in the allowance for doubtful accounts for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Beginning	₩	730,513	717,365
Bad debt expenses		(17,785)	24,791
Other bad debt expenses		283,699	9,824
Others(*1)		(43,708)	(21,467)
Ending	₩	952,719	730,513

(*1) Others for the years ended December 31, 2023 and 2022, included decreases mainly due to write-off amounting to ₩51,831 million and ₩20,855 million, respectively.

(c) Liquidity risk

1) Contractual maturities for non-derivative financial liabilities are as follows:

(in millions of Won)	_	Book value	Contractual cash flow	Within 1 year	1 year - 5 years	After 5 years
Trade accounts and notes payable	₩	5,782,825	5,782,825	5,782,825	-	-
Borrowings(*1)		25,970,379	28,112,630	11,535,464	14,940,495	1,636,671
Financial guarantee liabilities(*2)		12,972	3,939,463	3,939,463	-	-
Lease liabilities		924,320	1,107,761	163,952	506,381	437,428
Other financial liabilities		2,317,139	2,317,510	2,204,034	113,476	-
	₩_	35,007,635	41,260,189	23,625,738	15,560,352	2,074,099

- (*1) For exchangeable bonds, cash flow is allocated to the period in which the investor's right to claim early redemption could be exercised.
- (*2) For issued financial guarantee contracts, the maximum amount of the guarantee is allocated to the earliest period in which the guarantee could be called.
- 2) Contractual maturities for derivative financial liabilities are as follows:

(in millions of Won)	_	Within 1 year	1 year - 5 years	After 5 years	Total
Currency forward	₩	33,367	4,984	-	38,351
Currency swap		1,983	5,074	10,651	17,708
Interest rate swap		-	16,278	-	16,278
Others		3,281	44,304	-	47,585
	₩	38,631	70,640	10,651	119,922

- (d) Currency risk
 - 1) The Company has exposure to the risk that the fair value or future cash flows of a financial instrument will fluctuate because of the changes in foreign exchange rates. The exposure to currency risk as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		202	23	202	2
	_	Assets	Liabilities	Assets	Liabilities
USD	₩	4,979,817	11,146,695	5,553,742	8,996,494
EUR		538,330	2,882,376	574,739	2,438,031
JPY		343,321	264,563	525,815	384,535
Others		1,108,650	461,634	1,614,928	807,876

 As of December 31, 2023 and 2022, provided that functional currency against foreign currencies other than functional currency hypothetically strengthens or weakens by 10%, the changes in gain or loss for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		20	23	2022		
		10% increase	10% decrease	10% increase	10% decrease	
USD	₩	(616,688)	616,688	(344,275)	344,275	
EUR		(234,405)	234,405	(186,329)	186,329	
JPY		7,876	(7,876)	14,128	(14,128)	

- (e) Interest rate risk
 - 1) The carrying amount of interest-bearing financial instruments as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Fixed rate			
Financial assets	\mathbf{W}	19,118,092	21,394,764
Financial liabilities		(19,237,434)	(16,932,079)
		(119,342)	4,462,685
Variable rate			
Financial liabilities	₩	(7,657,266)	(8,197,066)

2) Sensitivity analysis on the cash flows of financial instruments with variable interest rate

The Company's interest rate risk mainly arises from borrowings with variable interest rate. As of December 31, 2023 and 2022, provided that other factors remain the same and the interest rate of borrowings with floating rates increases or decreases by 1%, the changes in interest expense for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023		2022	
	-	1% increase	1% decrease	1% increase	1% decrease
Variable rate financial instruments	₩	(76,573)	76,573	(81,971)	81,971

24. Share Capital and Capital Surplus

(a) Share capital as of December 31, 2023 and 2022 are as follows:

(Share, in Won)		2023	2022
Authorized shares		200,000,000	200,000,000
Par value	₩	5,000	5,000
Issued shares(*1)		84,571,230	84,571,230
Shared capital(*2)	₩	482,403,125,000	482,403,125,000

- (*1) As of December 31, 2023, total number of ADRs of 20,430,296 outstanding in overseas stock market are equivalent to 5,107,574 shares of common stock.
- (*2) As of December 31, 2023, the difference between the ending balance of common stock and the aggregate par value of issued common stock is W59,547 million due to retirement of 11,909,395 treasury stocks.
- (b) The changes in issued common stock for the years ended December 31, 2023 and 2022 were as follows:

(share)		2023			2022		
	lssued shares	Treasury shares	Number of outstanding shares	Issued shares	Treasury shares	Number of outstanding shares	
Beginning	84,571,230	(8,722,053)	75,849,177	87,186,835	(11,561,263)	75,625,572	
Disposal of treasury shares	-	27,030	27,030	-	223,605	223,605	
Retirement of treasury shares		-	-	(2,615,605)	2,615,605	-	
Ending	84,571,230	(8,695,023)	75,876,207	84,571,230	(8,722,053)	75,849,177	

(c) Capital surplus as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Share premium	₩	463,825	463,825
Gain on disposal of treasury shares		808,994	806,114
Other capital surplus		390,515	130,893
	₩	1,663,334	1,400,832

25. Hybrid Bonds

(a) As of December 31, 2022, POSCO, a subsidiary of the Company, held hybrid bonds, which were classified as non-controlling interests in the consolidated financial statements. During the year ended December 31, 2023, the call option on the hybrid bonds was exercised and redeemed. Hybrid bonds as of December 31, 2023 and December 31, 2022 are as follows:

(in millions of Won)	Date of issue	Date of maturity	Interest rate (%)		2023	2022
Hybrid bond 1-2(*1,2) Issuance cost	2013-06-13	2043-06-13	4.60	₩	-	200,000 (616)
				₩	-	199,384

- (*1) During the year ended December 31, 2023, call option on the hybrid bonds was exercised and redeemed by POSCO, a subsidiary of the Company.
- (*2) Details of issuance of hybrid bonds are as follows.

	Hybrid bond 1-2
Maturity date	30 years (The issuer has a right to extend the maturity date)
Interest rate	Issue date ~ 2023-06-12 : 4.60% Reset every 10 years as follows; • After 10 years : return on government bond of Republic of Korea (10 years) + 1.40% • After 10 years : additionally +0.25% according to Step-up clauses
	· After 30 years : additionally +0.75%
Interest payments condition	Quarterly (Optional deferral of interest payment is available to the Company)
Others	The issuer can call the hybrid bond at year 10th anniversary of issuance and interest payment date afterwards

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(b) As of December 31, 2022, POSCO INTERNATIONAL Corporation, a subsidiary of the Company, held hybrid bonds, which were classified as non-controlling interests in the consolidated financial statements. During the year ended December 31, 2023, the call option on the hybrid bonds was exercised and redeemed. POSCO ENERGY CO., LTD., which issued hybrid bonds, was merged with POSCO INTERNATIONAL Corporation during the year ended December 31, 2023. Hybrid bonds as of December 31, 2023 and December 31, 2022 are as follows:

(in millions of Won)	Date of issue	Date of maturity	Interest rate (%)		2023	2022
Hybrid bond 1-4(*1,2) Issuance cost	2013-08-29	2043-08-29	5.21	₩	-	140,000 (429)
				₩	-	139,571

- (*1) During the year ended December 31, 2023, call option on the hybrid bonds was exercised and redeemed by POSCO INTERNATIONAL Corporation, a subsidiary of the Company.
- (*2) Details of issuance of hybrid bonds are as follows:

	Hybrid bond 1-4
Maturity date	30 years (The issuer has a right to extend the maturity date)
Interest rate	Issue date ~ 2023-08-29 : 5.21% Reset every 10 years as follows; • After 10 years : return on government bond of Republic of Korea (10 years) + 1.55% • After 10 years : additionally +0.25% according to Step-up clauses • After 30 years : additionally +0.75%
Interest payments condition Others	Quarterly (Optional deferral of interest payment is available to the Company) The issuer can call the hybrid bond at year 10th anniversary of issuance and interest payment date afterwards

26. Reserves

(a) Reserves as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Accumulated comprehensive loss of investments in associates and joint ventures	₩	(180,964)	(406,555)
Changes in fair value of equity investments at fair value through other comprehensive income	è	153,279	(103,843)
Foreign currency translation differences		94,605	60,487
Gains or losses on valuation of derivatives		(644)	(3)
Others		980	5,924
	₩	67,256	(443,990)

(b) Changes in fair value of equity investments at fair value through other comprehensive income for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Beginning balance	₩	(103,843)	(153,359)
Changes in unrealized fair value of equity investments		260,603	37,068
Reclassification upon disposal		-	20,729
Others		(3,481)	(8,281)
Ending balance	₩	153,279	(103,843)

27. Treasury Shares

Based on the Board of Directors' resolution, the Company holds treasury shares for business purposes including price stabilization. The changes in treasury shares for the years ended December 31, 2023 and 2022 were as follows:

(shares, in millions of Won)	2023		2022		
	Number of shares	Amount	Number of shares	Amount	
Beginning	8,722,053 ₩	1,892,308	11,561,263 W	2,508,294	
Disposal of treasury shares	(27,030)	(2,650)	(223,605)	(48,513)	
Retirement of treasury shares			(2,615,605)	(567,473)	
Ending	8,695,023 ₩	1,889,658	8,722,053 W	1,892,308	

28. Share-Based Payments

The Company is operating a share-based payment program, under which the Company will pay treasury shares to executives of the Company and its subsidiaries based on performance evaluation. Total quantity of treasury shares to be paid in 2024, based on performance evaluation of 2023, is 19,288 shares for executives of POSCO HOLDINGS INC., and 41,378 shares for executives of subsidiaries including POSCO. As of December 31, 2023, the Company recognized W18,898 million as other capital surplus.

Subsidiaries of the Company including POSCO INTERNATIONAL Corporation is operating a share-based payment program, under which the Company will pay treasury shares of the subsidiaries to executives and employees based on performance evaluation. Total quantity of treasury shares to be paid in 2024, based on performance evaluation of 2023, is 385,542 shares. As of December 31, 2023, the Company recognized W17,324 million as non-controlling interests.

The fair value of the treasury shares expected to be paid to the Company's executives and employees as of the date of pay is accounted for as other administrative expenses. Meanwhile, the shares to be paid by the controlling company was accounted for as other capital surplus, and the shares to be paid by subsidiaries including POSCO INTERNATIONAL Corporation, was accounted for as non-controlling interests. The actual quantity of treasury shares to be paid will be determined after the board of director's resolution and performance evaluation.

29. Revenue

(a) Disaggregation of revenue

Details of revenue disaggregated by types of revenue and timing of revenue recognition for the years ended December 31, 2023 and 2022 were as follows:

1) For the year ended December 31, 2023

(in millions of Won)		_	Green Infrastructure					
	_	Steel	Trading	Construction	Logistics and others	Green Materials and Energy	Others	Total
Types of revenue Revenue from sales of goods Revenue from services Revenue from construction contract Others	₩	39,435,236 807,142 - 150,895	20,973,059 3,056,272 - 4,175	- 142,902 8,140,768 17.460	17,923 397,421 - 55,269	3,775,215 4,415 36,404 8	- 13,082 - 99.551	64,201,433 4,421,234 8,177,172 327,358
Others	₩	40,393,273	24,033,506	8,301,130	470,613	3,816,042	112,633	77,127,197
Timing of revenue recognition Revenue recognized at a point in time Revenue recognized over time	₩	39,586,131 807,142	20,977,234 3,056,272	99,249 8,201,881	73,192 397,421	3,775,223 40,819	99,551 13,082	64,610,580 12,516,617
	₩	40,393,273	24,033,506	8,301,130	470,613	3,816,042	112,633	77,127,197

2) For the year ended December 31, 2022

(in millions of Won)		_	Green Infrastructure					
		Steel	Trading	Construction	Logistics and others	Green Materials and Energy	Others	Total
Types of revenue								
Revenue from sales of goods	₩	43,508,308	24,824,117		84,168	2,418,796		70,835,389
Revenue from services		919,391	586,047	142,708	3,849,390	4,501	8,017	5,510,054
Revenue from construction contract		-		7,516,451		28,488		7,544,939
Others		119,267	545,294	8,537	65,401	-	121,323	859,822
	₩	44,546,966	25,955,458	7,667,696	3,998,959	2,451,785	129,340	84,750,204
Timing of revenue recognition								
Revenue recognized at a point in time	₩	43,627,575	25,369,411	122,188	149,569	2,418,796	121,323	71,808,862
Revenue recognized over time		919,391	586,047	7,545,508	3,849,390	32,989	8,017	12,941,342
	₩	44,546,966	25,955,458	7,667,696	3,998,959	2,451,785	129,340	84,750,204

(b) Details of contract assets and liabilities from contracts with customers as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Receivables			
Account receivables	₩	9,155,853	8,414,946
Contract assets			
Due from customers for contract work		1,901,966	1,378,640
Contract liabilities			
Advance received		309,441	547,874
Due to customers for contract work		624,632	761,393
Unearned revenue		77,908	84,195

30. Revenue – Contract Balances

(a) Details of outstanding contracts as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023		2022		
	_	Construction segment	Others	Construction segment	Others	
Accumulated cost	₩	28,663,723	272,321	30,239,570	110,414	
Accumulated contract profit		2,499,061	36,954	2,664,024	17,916	
Accumulated contract loss		(688,962)	(8,916)	(879,882)	(5,266)	
Accumulated contract revenue		30,473,822	300,359	32,023,712	123,064	

(b) Details of due from customers for contract work and due to customers for contract work as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023		2022		
	_	Construction segment	Others	Construction segment	Others	
Due from customers for contract Due to customers for contract work	₩	1,873,681 (608,339)	42,557 (16,293)	1,321,160 (674,697)	86,118 (86,696)	
	₩	1,265,342	26,264	646,463	(578)	

(c) Details of the provisions of construction loss as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Construction segment	₩	48,825	66,124
Others		1,749	11,342
	₩	50,574	77,466

(d) During the year ended December 31, 2023, the total contract revenues and the estimated total contract costs have changed. The impact of these changes on profit before income tax for the year ended December 31, 2023 and future periods are as follows:

(in millions of Won)		hanges in profit (loss) of contract				
		Changes in total contract revenue	Changes in estimated total contract costs	Net income	Future income (loss)	Total
Construction segment	₩	1,342,143	1,428,171	(119,442)	33,414	(86,028)
Others		22,631	16,329	6,654	(352)	6,302
	₩	1,364,774	1,444,500	(112,788)	33,062	(79,726)

The effect on current and future profit is calculated based on the total estimated contract costs based on situations that occurred from the commencement date of the contract to December 31, 2023 and the total contract revenue as of December 31, 2023.

(e) As of December 31, 2023, revenue expected to be recognized in the future in relation to performance obligations that have not been fulfilled (or partially fulfilled) is as follows:

(in millions of Won)		2024	2025	2026	After 2027	Total
Construction segment	₩	6,763,571	4,587,532	2,625,985	1,051,981	15,029,069
Others		54,102	24,960	15,758	29,857	124,677
	₩	6,817,673	4,612,492	2,641,743	1,081,838	15,153,746

(f) Uncertainty of estimates

1) Total contract revenues

Total contract revenues are measured based on contractual amount initially agreed. However, the contract revenues can increase due to additional contract work, claims and incentive payments, or decrease due to penalty when the completion of contract is delayed due to the Company's fault. Therefore, this measurement of contract revenues is affected by the uncertainty of the occurrence of future events.

2) Total contract costs

Contract revenues are recognized based on the percentage of completion, which is measured on the basis of the gross cost amount incurred to date. Total contract costs are estimated based on estimates of future material costs, labor costs, outsourcing costs and others. There is uncertainty in estimates on future contract costs due to various internal and external factors such as fluctuation of market, the risk of business partner and the experience of project performance and others. The significant assumptions including uncertainty of the estimate of total contract costs are as follows:

	Method of significant assumption
Material cost	Assumption based on recent purchasing price and quoted market price
Labor cost	Assumption based on standard monthly and daily labor cost
Outsourcing cost	Assumption based on the past experience rate of similar project and market price

Management reviews the assumptions used in estimated contract costs at each reporting period end and adjusts them, if necessary.

31. Selling and Administrative Expenses

(a) Other administrative expenses

Other administrative expenses for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Wages and salaries	₩	1,156,456	1,075,873
Expenses related to post-employment benefits		92,667	84,582
Other employee benefits		273,482	230,909
Travel		47,945	39,661
Depreciation		159,836	148,639
Amortization		96,004	90,069
Communication		11,956	10,890
Electricity		12,242	9,563
Taxes and public dues		100,639	95,976
Rental		48,243	36,732
Repairs		17,787	17,343
Entertainment		15,490	13,741
Advertising		107,223	103,551
Research & development		175,167	179,714
Service fees		234,815	225,072
Vehicles maintenance		7,660	7,102
Industry association fee		11,096	11,624
Conference		19,876	20,259
Others		81,103	78,667
	₩	2,669,687	2,479,967

(b) Selling expenses

Selling expenses for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Freight and custody expenses	₩	55,531	77,427
Operating expenses for distribution center		4,534	2,507
Sales commissions		68,138	75,012
Sales advertising		4,083	5,782
Sales promotion		9,503	19,388
Sample		2,234	2,052
Sales insurance premium		31,622	39,018
Contract cost		46,140	57,661
Others		11,794	15,635
	₩	233,579	294,482

32. Research and Development Expenditures Recognized as Expenses

Research and development expenditures recognized as expenses for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Administrative expenses	₩	175,167	179,714
Cost of sales		343,242	356,560
	₩_	518,409	536,274

33. Finance Income and Costs

Details of other finance income and costs for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Finance income			
Interest income(*1)	₩	502,147	247,005
Dividend income		50,146	39,383
Gain on foreign currency transactions		1,660,713	2,284,126
Gain on foreign currency translations		292,581	703,627
Gain on derivatives transactions		333,197	840,265
Gain on valuations of derivatives		201,133	262,723
Gain on disposals of financial assets at fair value			
through profit of loss		203,795	256,016
Gain on valuations of financial assets at fair value			
through profit or loss		572,154	98,359
Gain on valuations of financial liabilities at fair value			
through profit or loss		-	85,790
Others		14,880	16,717
	₩	3,830,746	4,834,011
Finance costs			
Interest expenses	₩	1,001,290	607,458
Loss on foreign currency transactions		1,595,430	2,505,862
Loss on foreign currency translations		705,866	969,215
Loss on derivatives transactions		320,374	690,471
Loss on valuation of derivatives		77,459	193,127
Loss on disposal of trade accounts and notes receival	ble	84,649	64,244
Loss on disposals of financial assets at fair value			
through profit or loss		13,264	18,245
Loss on valuations of financial assets at fair value			
through profit or loss		51,270	698,136
Loss on valuations of financial liabilities at fair value			
through profit or loss		305,562	-
Others		47,832	57,708
	₩	4,202,996	5,804,466

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

(*1) Interest income calculated using the effective interest method for the years ended December 31, 2023 and 2022 were ₩502,147 million and ₩226,584 million, respectively.

34. Other Non-Operating Income and Expenses

Details of other non-operating income and expenses for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Other non-operating income			
Gain on disposals of assets held for sale	₩	1,312	55,262
Gain on disposals of investment			
in subsidiaries, associates and joint ventures(*1)		197,088	13,904
Gain on disposals of property, plant and equipment		9,387	18,502
Gain on valuation of firm commitment		11,499	181,645
Reversal of other provisions		8,578	5,245
Premium income		13,117	237,565
Gain on bargain purchase(*1)		41,072	-
Gain on disposals of emission rights		25,998	5,181
Others		86,295	74,713
	₩	394,346	592,017
Other non-operating expenses			
Loss on disposals of assets held for sale(*2)	₩	103,366	3,964
Loss on disposals of investments			
in subsidiaries, associates and joint ventures		18,843	12,400
Loss on disposals of property, plant and equipment		125,823	111,082
Impairment loss on property, plant and equipment		275,846	213,183
Impairment loss on intangible assets		129,907	370,663
Loss on valuation of firm commitment		47,448	156,183
Idle tangible asset expenses		3,703	18,184
Increase to provisions		38,395	88,857
Donations		67,393	80,558
Others		93,619	68,611
	₩	904,343	1,123,685

- (*1) During the year ended December 31, 2023, QSONE Co.,Ltd., which had been previously classified as an investment in associates was reclassified as consolidated subsidiaries. As a result, the Company recognized W184,556 million of gain on disposals of investment in associates and W41,072 million of gain on bargain purchase.
- (*2) During the year ended December 31, 2023, the Company dispose of CSP Compania Siderurgica do Pecem, which was classified as assets held for sale during the year ended December 31, 2022, and recognized W103,366 million of loss on disposals of assets held for sale. The loss on disposal of assets held for sale recognized as profit or loss includes W102,470 million, which was reclassified from accumulated other comprehensive loss arising from translating the financial statements of foreign operation.

35. Expenses by Nature

Expenses that are recorded by nature as cost of sales, selling and administrative expenses, impairment loss on other receivables and other non-operating expenses in the statements of comprehensive income for the years ended December 31, 2023 and 2022 were as follows (excluding finance costs and income tax expense):

(in millions of Won)		2023	2022
Raw material used, changes in inventories and others	₩	46,249,994	54,450,080
Employee benefits expenses(*2)		4,660,771	4,330,946
Outsourced processing cost		10,377,087	8,641,448
Electricity and water expenses		1,099,970	936,360
Depreciation(*1)		3,325,088	3,204,744
Amortization		498,193	488,835
Freight and custody expenses		2,297,544	3,077,044
Sales commissions		68,138	75,012
Loss on disposal of property, plant and equipment		125,823	111,082
Impairment loss on property, plant and equipment		275,846	213,183
Impairment loss on intangible assets		129,907	370,663
Donations		67,393	80,558
Other expenses		5,615,703	5,058,849
	₩	74,791,457	81,038,804

(*1) Includes depreciation expense of investment property.

(*2) The details of employee benefits expenses for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)	_	2023	2022
Wages and salaries Expenses related to post-employment benefits	₩	4,375,123 285,648	4,024,805 306,141
	₩	4,660,771	4,330,946

36. Income Taxes

(a) Income tax expense for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Current income taxes(*1)	₩	802,998	932,085
Deferred income tax due to temporary differences		3,568	(415,609)
Items credited directly to equity		(17,261)	(62,593)
Income tax expense	₩	789,305	453,883

(*1) Refund (additional payment) of income taxes as a result of a final corporation tax return, tax audits and others credited (charged) directly to current income taxes.

(b) The income taxes credited (charged) directly to equity for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Net changes in fair value of equity investments			
at fair value through other comprehensive income(*1)	₩	(71,600)	(37,431)
Remeasurements of defined benefit plans(*1)		34,406	(16,971)
Others		19,933	(8,191)
	₩	(17,261)	(62,593)

(*1) Those amounts were recognized in other comprehensive income.

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

(c) The following table reconciles the calculated income tax expense based on POSCO's statutory rate (26.4%) to the actual amount of taxes recorded by the Company for the years ended December 31, 2023, and 2022.

(in millions of Won)		2023	2022
Profit before income tax expense	₩	2,635,154	4,014,366
Income tax expense computed at statutory rate		685,319	1,093,589
Adjustments:			
Tax credit		(82,233)	(133,727)
Additional income tax expense for prior years		152,656	22,929
Investment in subsidiaries,			
associates and joint ventures(*1)		146,498	(413,349)
Tax effect due to permanent differences		(3,011)	19,350
Carryforward of unused tax losses		(126,110)	(3,167)
Effect of tax rate change		4,998	(180,533)
Others		11,188	48,791
		103,986	(639,706)
Income tax expense	₩	789,305	453,883
Effective tax rate (%)		29.95%	11.30%

(*1) During the year ended December 31, 2022, POSCO HOLDINGS INC. sold certain of its subsidiaries and associates to POSCO, a subsidiary of POSCO Holdings, and classified CSP-Compania Siderurgica do Pecem, an investment in joint venture as assets held for sale. This amount includes W451,352 million related to recognition of deferred tax assets which were previously not recognized.

(d) The movements in deferred tax assets (liabilities) for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)			2023		2022			
	_	Beginning	Increase (decrease)	Ending	Beginning	Increase (decrease)	Ending	
Deferred income tax due to								
temporary differences								
Allowance for doubtful account	₩	130,501	26,107	156,608	143,358	(12,857)	130,501	
PP&E and Intangible asset Share of profit or loss of		382,838	(143,136)	239,702	(1,118,806)	1,501,644	382,838	
equity-accounted investees		269,638	21,281	290,919	224,566	45,072	269,638	
Allowance for inventories valuation		47,565	15,622	63,187	22,983	24,582	47,565	
Prepaid expenses		16,923	(3,370)	13,553	19,530	(2,607)	16,923	
Gain or loss on foreign currency translation		(13,706)	156,945	143,239	(1,105)	(12,601)	(13,706	
Defined benefit liabilities		(40,417)	36,883	(3,534)	(148,341)	107,924	(40,417	
Provision for construction losses		17,949	(6,280)	11,669	10,190	7,759	17,949	
Provision for construction warranty		70,271	(24,548)	45,723	74,360	(4,089)	70,271	
Accured income		(39,762)	18,491	(21,271)	(50,452)	10,690	(39,762	
Provision for accelerated depreciation		(2,736,674)	75,944	(2,660,730)	(8,510)	(2,728,164)	(2,736,674	
Spin-off		1,543,628	(7,451)	1,536,177	-	1,543,628	1,543,628	
Others		604,484	(328,655)	275,829	468,129	136,355	604,484	
	_	253,238	(162,167)	91,071	(364,098)	617,336	253,238	
Deferred income taxes	_							
recognized directly to equity								
Net changes in fair value of equity investments								
at fair value through other comprehensive income		36,028	(71,600)	(35,572)	73,459	(37,431)	36,028	
Others		(7,051)	54,339	47,288	134,737	(141,788)	(7,051	
	-	28.977	(17,261)	11,716	208,196	(179,219)	28,977	
Deferred tax from tax credit	-							
Tax credit carry-forward and others		71.364	182.195	253,559	72.864	(1,500)	71.364	
Investments in subsidiaries,		71,004	102,100	200,000	72,004	(1,500)	/1,004	
associates and joint ventures								
Investments in subsidiaries.								
associates and joint ventures		224.021	(6.335)	217.686	245.029	(21.008)	224.021	
	₩-	577.600	(3,568)	574.032	161.991	415.609	577.600	

(e) Deferred tax assets and liabilities for the years ended December 31, 2023 and 2022 are as follows:

(in millions of Won)			2023		2022			
		Asset	Liabilities	Net	Asset	Liabilities	Net	
Deferred income tax due to	_	· ·						
temporary differences								
Allowance for doubtful account	₩	156,681	(73)	156,608	130,700	(199)	130,501	
PP&E and Intangible asset		337,094	(97,392)	239,702	437,245	(54,407)	382,838	
Share of profit or loss of								
equity-accounted investees		304,225	(13,306)	290,919	284,568	(14,930)	269,638	
Allowance for inventories valuation		63,187	-	63,187	47,565	-	47,565	
Prepaid expenses		13,659	(106)	13,553	17,003	(80)	16,923	
Gain or loss on foreign currency translation		205,170	(61,931)	143,239	75,235	(88,941)	(13,706)	
Defined benefit liabilities		598,177	(601,711)	(3,534)	550,140	(590,557)	(40,417)	
Provision for construction losses		11,669	-	11,669	17,949	-	17,949	
Provision for construction warranty		45,723	-	45,723	70,271	-	70,271	
Accured income		-	(21,271)	(21,271)	-	(39,762)	(39,762)	
Provision for accelerated depreciation		-	(2,660,730)	(2,660,730)	-	(2,736,674)	(2,736,674)	
Spin-off		1,536,177	-	1,536,177	1,543,628	-	1,543,628	
Others		310.560	(34,731)	275,829	664,229	(59,745)	604,484	
		3,582,322	(3,491,251)	91,071	3,838,533	(3,585,295)	253,238	
Deferred income taxes								
recognized directly to equity								
Net changes in fair value of equity investments								
at fair value through other comprehensive income		50.134	(85,706)	(35.572)	105.125	(69.097)	36.028	
Others		76.604	(29,316)	47.288	30.370	(37,421)	(7,051)	
		126,738	(115.022)	11.716	135,495	(106.518)	28,977	
Deferred tax from tax credit			((
Tax credit carry-forward and others		253,559	-	253,559	71,364	-	71,364	
Investments in subsidiaries.					,			
associates and joint ventures								
Investments in subsidiaries.								
associates and joint ventures		499,326	(281,640)	217,686	463,133	(239,112)	224,021	
	₩	4,461,945	(3,887,913)	574,032	4,508,525	(3,930,925)	577,600	

- (f) As of December 31, 2023, deductible temporary differences of W6,282,636 million and taxable temporary differences of W11,603,746 million related to investments in subsidiaries and associates were not recognized as deferred tax assets or liabilities, because it is not probable they will reverse in the foreseeable future.
- (g) The Company recognized current tax payable or receivable at the amount expected to be paid or received that reflects uncertainty related to income taxes.
- (h) Global minimum top-up tax is a system in which multinational corporations with annual revenue of the consolidated financial statements over €750 million in at least two of the preceding four fiscal years. If the effective tax rate of the multinational corporation is less than 15%, the corresponding amount needs to be paid to the tax authorities of the country where the controlling company that meets specific requirement is located.

In 2023, the corporate income tax law related to the global minimum top-up tax in the Republic of Korea was amended and will be effective for fiscal years starting on or after January 1, 2024.

The Company expects to be subject to global minimum top-up tax, however, since the related corporate income tax law in the Republic of Korea will be effective on January 1, 2024, there is no impact on the Company's income tax expense for the year ended December 31, 2023. Furthermore, as K-IFRS No. 1012 "Income Tax" temporarily exempts the Company from accounting for deferred income taxes related to global minimum top-up tax, the Company did not recognize deferred tax assets and liabilities related to the global minimum top-up tax and does not disclose information related to deferred income

tax.

The Company is closely monitoring the financial impact of the global minimum top-up tax. Considering transitional exemption provisions (Transitional CbCR SafeHarbour), even if it is assumed that Pillar Two corporate income tax law was applied to Republic of Korea in 2023, the Company does not expect the impact of the global minimum top-up tax on the Company's current income tax would be significant.

37. Earnings Per Share

(a) Basic earnings per share for the years ended December 31, 2023 and 2022 were as follows:

(in Won except per share information)	_	2023	2022
Profit attributable to controlling interest	₩	1,698,092,001,648	3,144,086,508,618
Interests of hybrid bonds, net of tax		-	(1,078,164,383)
Weighted-average number of			
common shares outstanding(*1)	_	75,869,542	75,814,870
Basic earnings per share	₩	22,382	41,456

(*1) The weighted-average number of common shares used to calculate basic earnings per share are as follows:

(shares)	2023	2022
Total number of common shares issued	84,571,230	84,571,230
Weighted-average number of treasury shares	(8,701,688)	(8,756,360)
Weighted-average number of common shares outstanding	75,869,542	75,814,870

(b) Diluted earnings per share for the year ended December 31, 2022 are as follows:

(in Won, except share information)		2022
Profit attributable to controlling interest	₩	3,144,086,508,618
Interests of hybrid bonds, net of tax		(1,078,164,383)
Gain from exchange rate on and revaluation		
of exchangeable bonds		(55,751,463,819)
Adjusted weighted-average number		
of common shares(*1)		78,906,375
Diluted earnings per share	W	39,126

(*1) The weighted-average number of common shares used to calculate basic earnings per share are as follows:

(shares)	2022
Weighted-average number	
of common shares outstanding	75,814,870
Weighted-average number	
of potential common shares	3,091,505
Adjusted weighted-average number	
of common shares	78,906,375

The Company has potentially issuable common shares due to its exchangeable bonds and Share-based Payment Program as of December 31, 2023 and 2022. Diluted earnings per share is equal to basic earnings per share for the year ended December 31, 2023 due to anti-dilutive effect. Meanwhile, the effect from the Share-based Payment Program was excluded from the calculation of diluted earnings per share for year ended December 31, 2022 due to anti-dilutive effect.

38. Related Party Transactions

- (a) Significant transactions between the controlling company and related companies for the years ended December 31, 2023 and 2022 were as follows:
 - 1) For the year ended December 31, 2023

(in millions of Won)		s	ales and others(*1)	Purchase and others		
		Sales	Dividends	Others	Purchase of fixed assets	Others
Subsidiaries(*2)						
POSCO	₩	146,745	325,043	-	-	15,440
POSCO Eco & Challenge Co., Ltd.						
(formerly, POSCO ENGINEERING & CONSTRUCTION CO., LTD.)		9,354	11,037	440	23,007	5,875
POSCO STEELEON CO., Ltd		1,772	-	-	-	105
POSCO DX(formerly, POSCO ICT)		3,040	7,455	-	4,017	9,037
eNtoB Corporation		-	-	40	158	3,326
POSCO FUTURE M CO., LTD.						
(formerly, POSCO CHEMICAL CO., LTD)		8,902	13,878	-	-	-
POSCO Mobility Solution Corporation		1,035	-	55	-	-
POSCO INTERNATIONAL Corporation		9,278	77,616	-	-	48
POSCO Maharashtra Steel Private Limited		692	-	353	-	-
POSCO ASSAN TST STEEL INDUSTRY Inc.		17	-	430	-	-
Others	_	12,021	6,084	5,347	9,634	46,596
		192,856	441,113	6,665	36,816	80,427
Associates and joint ventures(*2)						
SNNC		629	-	55	-	-
Roy Hill Holdings Pty Ltd		-	293,956	-	-	-
Others		240	92,149	11,617		158
		869	386,105	11,672		158
	₩	193,725	827,218	18,337	36,816	80,585

- (*1) Sales and others mainly consist of trademark usage income, rental income and dividend income to subsidiaries, associates and joint ventures.
- (*2) As of December 31, 2023, the Company provided guarantees to related parties (Note 39)

2) For the year ended December 31, 2022

Subsidiaries Dividends Others Purchase of meterial POSCO W 87,165 - 2 - POSCO Eco & Challenge Co., Ltd. (formerly, POSCO ENGINEENING & CO.STRUCTION CO., LTD) 7,502 16,555 7 - POSCO DXformerly, POSCO ICT(*3) 1,760 4,970 18 - - POSCO FUTURE M CO., LTD 3 24 - 60,649 - POSCO FUTURE M CO., LTD 89,535 13,878 44 84,301 POSCO FUTURE M CO., LTD 89,535 13,878 44 84,301 POSCO Nitis Solution Corporation 176,534 - - 60,649 POSCO Notis Solution Corporation 176,554 - - - POSCO Notis Solution Corporation 176,554 - - - - POSCO Canada Ltd. - - - - - - - - - - - - - - - - - - - -	Purchase of fixed assets	Outsourced processing cost	Others 10,44 13,08 1 34,72 3,45 90 0 2 1,04
W 87,165 - 2 - POSCO Challenge Co, Ltd. <	39,932 9,706	10,190 32 56,325 8,802	13,08 1 34,72 3,45 90 2 1,04
USC W 87,165 - 2 POSCO ECO & Challenge Co., Ltd. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	39,932 9,706	10,190 32 56,325 8,802	13,08 1 34,72 3,45 90 2 1,04
Idormerly, POSCO ENGINEERING & CONSTRUCTION CO.,LTD.) 7,502 16,555 7 - POSCO DXIformerly, POSCO ICT(*3) 1,760 4,970 18 - POSCO DXIformerly, POSCO ICT(*3) 1,760 4,970 18 - POSCO DXIformerly, POSCO ICT(*3) 1,760 4,970 18 - Informerly, POSCO ICT(*3) 1,760 4,970 18 - VIDE Concoration 3 24 - 66,649 POSCO FUTURE M CO., LTD. 89,535 13,878 44 84,301 POSCO ONAbility Solution Corporation 176,534 - - - POSCO Thainox Public Company Limited 49,359 22,867 - - - POSCO Thainox Public Company Limited 43,559 - - - - - POSCO VENICA Lot. 22,584 - - - - - POSCO JAPAN Co., Ltd. 22,594 - - - - - POSCO VIENICANA Co., Ltd. <	39,932 9,706	10,190 32 56,325 8,802	1 34,72 3,45 90 2 1,04
CONSTRUCTION CO.,LTD.) 7,502 16,555 7 - POSCO DXTELELON CO., Ltd 133,743 - 215 - POSCO DXIformerly, POSCO CIT(1*3) 1,760 4,970 18 - eNteB Corporation 3 24 - 60,649 POSCO DXITEM MCO., LTD. 83,535 13,876 44 84,301 POSCO TITERINATIONAL Corporation 176,534 - - - POSCO Thainox Public Corporation 2,102,356 62,083 - 244,230 POSCO Table Not Stainless Steel Co., Ltd. 32,584 - - - POSCO VIETNAM Co., Ltd. 28,790 - - 835 POSCO VIETNAM Co., Ltd. 44,840 - 513 - POSCO MEXICO S.A. DE C.V.	39,932 9,706	10,190 32 56,325 8,802	1 34,72 3,45 90 2 1,04
POSCO STEELEON CO. Ltd 133,743 - 215 - POSCO DX(formerly, POSCO ICT)(*3) 1,760 4,970 18 - 60,649 POSCO DUTURE M CO., LTD. 3 24 - 60,649 Iformerly, POSCO CHEWICAL CO., LTD. 89,535 13,878 44 84,301 POSCO DUTURE M CO., LTD. 176,534 - - - POSCO INEMICAL CO., LTD. 176,534 - - - POSCO INEMICAL CO., LTD. 89,535 62,033 - 242,423 POSCO Thainoc Public Company Limited 49,359 22,867 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - <t< td=""><td>39,932 9,706</td><td>10,190 32 56,325 8,802</td><td>1 34,72 3,45 90 2 1,04</td></t<>	39,932 9,706	10,190 32 56,325 8,802	1 34,72 3,45 90 2 1,04
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eNtoB Corporation 3 24 - 60,649 POSCO FUTURE M CO., LTD. 89,535 13,878 44 84,301 POSCO Mobility Solution Corporation 176,534 - - - POSCO Thainoc Public Company Limited 49,359 22,867 - - - POSCO Thainoc Public Company Limited 49,359 22,867 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	9,706	32 56,325 8,802	3,45 90 2 1,04
POSCO FUTURE M CO., LTD. 89,535 13,878 44 84,301 (formerly, POSCO Mobility Solution Corporation 176,534 - - - - POSCO Mobility Solution Corporation 176,534 - - - - 244,230 POSCO Mobility Solution Company Limited 49,359 22,867 - - 77,225 - - 77,225 Cingdao Pohang Stainless Steel Co., Ltd. 32,584 - - - 77,225 - - - 77,225 - - - 77,225 - - - - - - 77,225 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - <t< td=""><td>.,</td><td>8,802</td><td>90 2 1,04</td></t<>	.,	8,802	90 2 1,04
Iformary, POSCO CHEMICAL CO., LTD) 88,535 13,878 44 84,301 POSCO Mobility Solution Corporation 176,534 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	4,757	8,802	2 1,04
POSCO Mehiling Solution Corporation 176,534 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	-	8,802	2 1,04
POSCO INTERNATIONAL Corporation 2,102,356 62,083 - 244,230 POSCO Intaniox Public Company Limited 49,359 22,867 - - - - 77,225 OpSCO Chandoa Ltd. - - - - 77,225 - - - 77,225 - - - - - - 77,225 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	-	768	
POSCO Thainox Public Company Limited 49,359 22,867 - - - - - 77,225 Olingdao Pohang Stainless Steel Co., Ltd. 32,584 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	-		
Oingdoo Pohang Stainless Steel Co., Ltd. 32,594 - - - - - - - - 835 POSCO JAPAN Co., Ltd. 28,790 - - 835 POSCO-VEITNAM Co., Ltd. 44,840 - 513 - - 835 POSCO MEXICO S.A. DE C.V. 100,776 - 562 - - 905CO MEXICO S.A. DE C.V. 107,776 - 562 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	-		
POSCO JAPAN Co., Ltd. 28,790 - - 835 POSCO JAPAN Co., Ltd. 44,840 - 513 - POSCO MENICO SA. DE C.V. 102,776 - 562 - POSCO Marashira Steel Private Limited 171,806 - 1,130 -	-		
PDSCO-VIETNAM Co., Ltd. 44,840 - 513 - POSCO MEXICO SA. DE C.V. 102,776 - 562 - POSCO Mersishira Steel Private Limited 171,806 - 1,130 -			
POSCO-VIETNANI Co., Ltd. 44,840 - 513 - POSCO MEXICO S.A. DE C.V. 102,776 - 562 - POSCO MEXICASItro Streight Private Limited 171,806 - 1,130 -			1
POSCO Maharashtra Steel Private Limited 171,806 - 1,130 -			
	-		
POSCO(Suzhou) Automotive Processing			12
Center Co., Ltd. 42,320			1
POSCO VST CO., LTD. 28,475			
POSCO INTERNATIONAL SINGAPORE PTE LTD 179 379,823			
POSCO ASSAN TST STEEL INDUSTRY Inc. 47,335 - 537 -			
Others 208,200 2,452 6,574 68,139	18,844	53,139	227,14
3,355,083 122,839 9,781 915,202	153,545	136,912	291,01
Associates and joint ventures(*3)			
SNNC 3,242 5,348 8 148,239			
POSCO-SAMSUNG-Slovakia Processing Center 25.614			
Roy Hill Holdings Pty Ltd - 186,813 - 210,455			
Others 78,048 209,457 14,704 14,015	-	-	19
106,904 401,618 14,712 372,709	-		19
₩ 3,461,987 524,457 24,493 1,287,911		136,912	291,21

(*1) Sales and others mainly consist of sales of steel products (before spin-off), trademark usage income, rental income and dividend income to subsidiaries, associates and joint ventures.

- (*2) Purchase and others mainly consist of subsidiaries' purchases of construction services and purchases of raw materials to manufacture steel products.
- (*3) Others (purchase) mainly consist of service fees related to maintenance and repair of ERP System.
- (b) The related account balances of significant transactions between the controlling company and related companies as of December 31, 2023 and 2022 are as follows:

1) December 31, 2023

(in millions of Won)		F	Receivables		Payables			
	-	Trade accounts and notes receivable	Others	Total	Accounts payable	Others	Total	
Subsidiaries								
POSCO	₩	110,913	19,666	130,579	3,937	32,901	36,838	
POSCO Eco & Challenge Co., Ltd.								
(formerly, POSCO ENGINEERING & CONSTRUCTION CO., LTD.)		9,262	1,714	10,976	-	170	170	
POSCO STEELEON CO., Ltd		1,063	-	1,063	-	-	-	
POSCO DX(formerly, POSCO ICT)		1,574	-	1,574	1,434	423	1,857	
eNtoB Corporation		-	-	-	1,391	3	1,394	
POSCO FUTURE M CO., LTD.								
(formerly, POSCO CHEMICAL CO., LTD)		14,299	463	14,762	-	31	31	
POSCO Mobility Solution Corporation		981	-	981	-	-	-	
POSCO INTERNATIONAL Corporation		6,449	25	6,474	-	163	163	
PT. KRAKATAU POSCO		-	3,582	3,582	-	-	-	
Others		3,345	11,152	14,497	9,022	151	9,173	
		147,886	36,602	184,488	15,784	33,842	49,626	
Associates and joint ventures								
SNNC		334	-	334	-	-	-	
Roy Hill Holdings Pty Ltd		-	88.008	88.008	-	-	-	
FQM Australia Holdings Pty Ltd(*1)		-	218,900	218,900	-	-	-	
Others		195	560	755	-	-	-	
	-	529	307,468	307,997			-	
	₩	148,415	344,070	492,485	15,784	33,842	49,626	

(*1) FQM Australia Holdings Pty Ltd's other receivable consists of long-term loans and accrued interest. During the year ended December 31, 2023, the Company provided additional loan to its associates by W6,448 million. Meanwhile, the Company has recognized allowance for doubtful accounts for all of other receivables amounting to W218,900 million during the year ended December 31, 2023.

2) December 31, 2022

(in millions of Won)		Receivables		Payables			
	Trade accounts and notes receivable	Others	Total	Accounts payable	Others	Total	
Subsidiaries							
POSCO W	75,343	6,600	81,943	5,678	14,663	20,341	
POSCO Eco & Challenge Co., Ltd.							
(formerly, POSCO ENGINEERING & CONSTRUCTION CO., LTD.)	3,808	660	4,468	-	-	-	
POSCO STEELEON CO., Ltd	818	-	818	-	-	-	
POSCO DX(formerly, POSCO ICT)	687	-	687	859	705	1,564	
POSCO FUTURE M CO., LTD.							
(formerly, POSCO CHEMICAL CO., LTD)	8,550	-	8,550	-	5,086	5,086	
POSCO Mobility Solution Corporation	489	-	489	-	-	-	
POSCO INTERNATIONAL Corporation	2,002	-	2,002	-	502	502	
Qingdao Pohang Stainless Steel Co., Ltd.	-	-	-	122	-	122	
POSCO Maharashtra Steel Private Limited	-	466	466	486	-	486	
POSCO ASSAN TST STEEL INDUSTRY Inc.	-	513	513	104	-	104	
PT. KRAKATAU POSCO	-	8,967	8,967	391	-	391	
Others	5,318	6,080	11,398	11,874	4,928	16,802	
	97,015	23,286	120,301	19,514	25,884	45,398	
Associates and joint ventures							
SNNC	94		94		-		
Roy Hill Holdings Pty Ltd	23,400	-	23,400	-	-	-	
FQM Australia Holdings Pty Ltd(*1)		202,562	202.562		-		
Others	190	761	951	74	-	74	
	23,684	203,323	227,007	74		74	
₩	120,699	226,609	347,308	19,588	25,884	45,472	

- (*1) FQM Australia Holdings Pty Ltd's other receivable consists of long-term loans. During the year ended December 31, 2022, the Company provided additional loan to its associates by W12,116 million.
- (c) Significant transactions between the Company, excluding the controlling company, and related companies for the years ended December 31, 2023 and 2022 were as follows:

1) For the year ended December 31, 2023

(in millions of Won)		Sa	les and others	Purchase and others		
		Sales	Dividends	Others	Purchase of material	Others
Associates and joint ventures						
New Songdo International City						
Development, LLC	₩	208,536	-	1,484	-	279
SNNC		164,198	-	32	637,638	1,749
Noeul Green Energy Co., Ltd.		6,499	-	28	-	10,320
POS-SEAH STEEL WIRE(TIANJIN)CO., Ltd		14,477	-	-	-	-
POS SeAH Steel Wire(Nantong) Co., Ltd.		43,811	-	-	73	-
South-East Asia Gas Pipeline Company Ltd.		-	59,295	-	-	-
POSCO MC MATERIALS						
(formerly, POSCO MITSUBISHI CARBON						
TECHNOLOGY)		113,542	9,000	-	6,861	1,564
Samcheok Blue Power Co., Ltd.		503,283	10,020	-	-	-
Pocheon-Hwado Highway Corp.		160,233	-	-	-	-
Roy Hill Holdings Pty Ltd		-	73,489	-	1,611,073	-
UITrans LRT Co., Ltd.		554	-	-	-	-
Others		474,052	120,429	3,353	590,717	101,909
	₩	1,689,185	272,233	4,897	2,846,362	115,821

2) For the year ended December 31, 2022

(in millions of Won)		Sa	les and others	Purchase an	d others	
		Sales	Dividends	Others	Purchase of material	Others
Associates and joint ventures						
New Songdo International City						
Development, LLC	₩	270,465	-	-	-	148
SNNC		161,565	-	412	613,514	1,755
Noeul Green Energy Co., Ltd.		5,531	-	-	-	1,716
CSP - Compania Siderurgica do Pecem(*1)		7,173	-	-	126,123	22,663
Zhongyue POSCO (Qinhuangdao) Tinplate						
Industrial Co., Ltd(*2)		17,824	-	-	24,190	-
POS-SEAH STEEL WIRE(TIANJIN)CO., Ltd		14,863	-	-	-	-
POS-SeAH Steel Wire(Nantong) Co., Ltd.		32,007	-	-	357	-
South-East Asia Gas Pipeline Company Ltd.		-	14,541	2,974	-	-
POSCO MC MATERIALS						
(formerly, POSCO MITSUBISHI CARBON						
TECHNOLOGY)		134,498	24,000	-	5,446	-
Samcheok Blue Power Co., Ltd.		502,259	9,992	26	-	-
Pocheon-Hwado Highway Corp.		93,428	-	-	-	-
Roy Hill Holdings Pty Ltd		-	46,780	-	1,463,383	-
Others		547,627	137,733	3,026	507,705	122,092
	₩	1,787,240	233,046	6,438	2,740,718	148,374

- (*1) CSP Compania Siderurgica do Pecem was excluded from the subsidiaries due to the sale of its shares during the year ended December 31, 2023.
- (*2) Zhongyue POSCO (Qinhuangdao) Tinplate Industrial Co., Ltd was excluded from the association due to the sale of its shares during the year ended December 31, 2022.
- (d) The related account balances of significant transactions between the Company, excluding the controlling company, and related companies as of December 31, 2023 and 2022 are as follows:

1) December 31, 2023

(in millions of Won)	_		Receival	bles(*1)	Payables			
	_	Trade accounts and		0.1		Trade accounts and	0.1	
	-	notes receivable	Loans	Others	Total	notes payable	Others	Total
Associates and joint ventures								
New Songdo International City								
Development, LLC	₩	15,260		1,497	16,757		39,089	39,089
Samcheok Blue Power Co., Ltd.		162,759		213	162,972		9,605	9,605
Nickel Mining Company SAS			64,197	34	64,231		358	358
POS-SeAH Steel Wire(Nantong) Co., Ltd.		14,162			14,162			
POSCO MC MATERIALS								
(formerly, POSCO MITSUBISHI CARBON								
TECHNOLOGY)		13,641	-	82	13,723	1,156		1,156
Pocheon-Hwado Highway Corp.		33,944	-	-	33,944	-	7,712	7,712
UITrans LRT Co., Ltd.			46,335	8,395	54,730	-	2,398	2,398
Roy Hill Holdings Pty Ltd			-	22,002	22,002	263,440		263,440
SNNC		14,738	-	60	14,798	25,482	1,731	27,213
POSCO(Guangdong) Automotive Steel Co., Ltd.		59,913	-	-	59,913	52,961	-	52,961
Others	-	54,211	167,368	134,795	356,374	6,642	14,585	21,227
	₩.	368,628	277,900	167,078	813,606	349,681	75,478	425,159

(*1) As of December 31, 2023, the Company recognizes bad-debt allowance for receivables amounting to ₩185,972 million.

2) December 31, 2022

(in millions of Won)			Receivable	s(*1)	Payables			
	-	Trade accounts and notes receivable	Loans	Others	Total	Trade accounts and notes receivable	Others	Total
Associates and joint ventures								
New Songdo International City								
Development, LLC	₩	63,413		16,858	80,271	-	39,664	39,664
Chuncheon Energy Co., Ltd.		-				-	50	50
Samcheok Blue Power Co., Ltd.		107,119			107,119	-	18,224	18,224
Nickel Mining Company SAS		· -	63,024	263	63,287	-	358	358
CSP - Compania Siderurgica do Pecem		3			3	-		
POS-SeAH Steel Wire(Nantong) Co., Ltd.		7,096			7,096	-		-
POSCO MC MATERIALS								
(formerly, POSCO MITSUBISHI CARBON								
TECHNOLOGY)		12,589		52	12,641	1,198	4	1,202
Pocheon-Hwado Highway Corp.		16,297			16,297	-		
UITrans LRT Co., Ltd.		-	36,510		36,510	-	1,999	1,999
Roy Hill Holdings Pty Ltd		-		7,110	7,110	571,084		571,084
SNNC		7,827		51	7,878	44,124	198	44,322
POSCO(Guangdong) Automotive Steel Co., Ltd.		-	35,131		35,131	-		
Others		98,920	185,022	112,538	396,480	54,708	25,241	79,949
	₩.	313,264	319.687	136,872	769,823	671,114	85,738	756,852

- (*1) As of December 31, 2022, the Company recognizes bad-debt allowance for receivables amounting to W131,588 million.
- (e) Significant financial transactions between the Company, excluding the controlling company, and related companies for the years ended December 31, 2023 and 2022 were as follows:

1) December 31, 2023

(in millions of Won)	_	Beginning	Lend	Collect	Others(*1)	Ending
Associates and joint ventures						
UITrans LRT Co., Ltd.	₩	36,510	9,825	-	-	46,335
PT. Tanggamus Electric Power		5,014	-	(270)	82	4,826
PT. Wampu Electric Power		3,988	-	(4,063)	75	-
Nickel Mining Company SAS		63,024	-	(2,322)	3,495	64,197
KRAKATAU POS-CHEM DONG-SUH CHEMICAL		3,802	-	(1,323)	100	2,579
POS-SeAH Steel Wire (Thailand) Co., Ltd.		7,604	-	(7,828)	224	-
AMCI (WA) PTY LTD		104,281	6,620	-	1,276	112,177
POS-AUSTEM WUHAN AUTOMOTIVE CO., LTD		10,138	-	(5,321)	341	5,158
Hyo-chun Co., Ltd.		2,382	-	-	-	2,382
POS-AUSTEM Suzhou Automotive Co., Ltd		12,673	-	(13,219)	546	-
FQM Australia Holdings Pty Ltd		35,040	2,637	-	923	38,600
POHANG E&E Co. , LTD		100	1,546	-	-	1,646
POSCO(Guangdong) Automotive Steel Co., Ltd.		35,131	-	(35,131)	-	-
	₩.	319,687	20,628	(69,477)	7,062	277,900

(*1) Includes adjustments of foreign currency translation differences and others.

2) December 31, 2022

(in millions of Won)		Beginning	Lend	Collect	Others(*1)	Ending
Associates and jointventures						
UITrans LRT Co., Ltd.	₩	29,099	7,460	(5)	(44)	36,510
South-East Asia Gas Pipeline Company Ltd.		47,423	-	(45,639)	(1,784)	-
PT. Tanggamus Electric Power		4,690	-	-	324	5,014
PT. Wampu Electric Power		5,651	-	(1,876)	213	3,988
PT. POSMI Steel Indonesia		2,371	-	(2,371)	-	-
Nickel Mining Company SAS		62,611	-	-	413	63,024
KRAKATAU POS-CHEM DONG-SUH CHEMICAL		4,742	-	(1,264)	324	3,802
POS-SeAH Steel Wire (Thailand) Co., Ltd.		7,113	-	-	491	7,604
AMCI (WA) PTY LTD		91,665	6,975	-	5,641	104,281
POS-AUSTEM YANTAI AUTOMOTIVE CO., LTD		5,928	-	(6,548)	620	-
POS-AUSTEM WUHAN AUTOMOTIVE CO., LTD		9,484	-	-	654	10,138
Hyo-chun Co., Ltd.		2,382	-	-	-	2,382
POS-AUSTEM Suzhou Automotive Co., Ltd		17,783	-	(6,069)	959	12,673
FQM Australia Holdings Pty Ltd		27,227	7,935	-	(122)	35,040
POHANG E&E Co. , LTD		-	100	-	-	100
POSCO(Guangdong) Automotive Steel Co., Ltd.		-	35,131	-	-	35,131
	₩	318,169	57,601	(63,772)	7,689	319,687

(*1) Includes adjustments of foreign currency translation differences and others.

(f) For the years ended December 31, 2023 and 2022, details of compensation to key management officers were as follows:

(in millions of Won)		2023	2022
Short-term benefits	\mathbf{W}	199,608	174,629
Long-term benefits		9,641	9,182
Retirement benefits		38,934	22,106
	₩	248,183	205,917

Key management officers include directors (including non-standing directors), executive officials and fellow officials who have significant influences and responsibilities in the Company's business and operations.

39. Commitments and Contingencies

(a) Contingent liabilities

Contingent liabilities may develop in a way not initially expected. Therefore, management continuously assesses contingent liabilities to determine whether an outflow of resources embodying economic benefits has become probable. If it becomes probable that an outflow of future economic benefits will be required for an item previously dealt with as a contingent liability, a provision is recognized in the consolidated financial statements of the period in which the change in probability occurs (except in the extremely rare circumstances where no reliable estimate can be made).

Management makes estimates and assumptions that affect disclosures of commitments and contingencies. All estimates and assumptions are based on the evaluation of current circumstances and appraisals with the supports of internal specialists or external consultants.

Management regularly analyzes current information about these matters and provides for probable contingent losses including the estimate of legal expense to resolve the matters. Internal and external lawyers are used for these assessments. In making the decision regarding the need for a provision, management considers whether the Company has an obligation as a result of a past event, whether it is probable that an outflow or cash or other resources embodying economic benefits will be required to settle the obligation and the ability to make a reliable estimate of the amount of the obligation.

(b) Details of guarantees

1) Contingent liabilities on outstanding guarantees and others provided by the Company as of December 31, 2023 are as follows:

in millions of Won)	Constant to a finite	Encoded in stitution		Guarantee limi		Guarantee an	
Guarantor	Guarantee beneficiary	Financial institution		oreign currency	Won equivalent	Foreign currency	Won equivalent
The Company] OSCO HOLDINGS INC.	POSCO Asia Co., Ltd.	Credit Agricole and others	USD	205,000,000	264,327		
Jaco Holdinga Inc.	POSCO Argentina S.A.U	HSBC and others	USD	411,900,000	531,104	319,895,483	412,
osco	POSCO MEXICO S.A. DE C.V.	BOA and others	USD	60.000.000	77.364	60.000.000	412,
3500		SMBC and others	USD				
	POSCO-VIETNAM Co., Ltd. PT. KRAKATAU POSCO	Export-Import Bank of	USD	110,000,000	141,834	80,000,000	103,1
	11.100000	Korea and others	USD	2,060,300,000	2,656,550	1,023,496,118	1,319,6
	POSCO COATED STEEL (THAILAND) CO., LTD.	SMBC and others	THB	4,800,000,000	180,576	3,936,000,000	148,
	POSCO Maharashtra Steel Private Limited	SMBC and others	USD	40.000.000	51,576	40.000.000	51.
	POSCO ASSAN TST STEEL INDUSTRY Inc	SOCIETE GENERALE and others	USD	122,850,000	158,403	122,850,000	158,
SCO INTERNATIONAL Corporation	POSCO INTERNATIONAL GLOBAL DEVELOPMENT	POSCO Asia Co., Ltd.					
	PTE. LTD. POSCO INTERNATIONAL POWER (PNGLAE)	KDB bank	USD	180,000,000	232,092	150,000,000	193,
	LIMITED		USD	20,880,000	26,923	13,400,000	17,
	GOLDEN LACE POSCO INTERNATIONAL CO., LTD.	POSCO Asia Co., Ltd.	USD	13,200,000	17,020	11,000,000	14,
	PT. Bio Inti Agrindo	BTPN and others	IDR	1.232.000.000.000	102.995	1.160.000.000.000	96.
	POSCO ASSAN TST STEEL INDUSTRY Inc	ING	USD	13,700,000	17,665	13,700,000	17.
	POSCO INTERNATIONAL Deutschland GmbH	Bank Mendes Gans Amsterdam	000	10,700,000	17,000	20,005,200	25,
	POSCO INTERNATIONAL AMERICA Corp.	Durik Meruco Gurio Arroteraurri				20,000,200	20,
						-	
	POSCO INTERNATIONAL JAPAN Corp.					7,106,727	9,
	POSCO INTERNATIONAL SINGAPORE PTE. LTD.					-	
	POSCO INTERNATIONAL Malaysia SDN BHD						
	POSCO INTERNATIONAL Italia S.R.L.					-	
	POSCO INTERNATIONAL MEXICO S.A. de C.V.		1100	50.000.000	64.470	17 050 570	
			USD	50,000,000	64,470	17,250,570	22
	GRAIN TERMINAL HOLDING PTE. LTD.	Export-Import Bank of					
		Korea and others	USD	27,000,000	34,814	27,000,000	34
	POSCO INTERNATIONAL E&P MALAYSIA SDN. BHD.	SC MALAYSIA	USD	6,000,000	7,736	6,000,000	
	PT. KRAKATAU POSCO ENERGY	POSCO Asia Co., Ltd. and others	USD	88,903,407	114,632	53,201,703	68
	Posco International Mexico e-Mobility S.A DE C.V.	Export-Import Bank of					
		Korea and others	USD	27,000,000	34,814	27,000,000	34
	PT POSCO INTERNATIONAL ENP INDONESIA	PT Bank Negara Indonesia	USD	750,000	967	750,000	
CO Eco & Challenge Co., Ltd.	POSCO E&C Vietnam Co., Ltd.	POSCO Asia Co., Ltd. and others	000	755,000	507	755,555	
rmerly, POSCO ENGINEERING &							
INSTRUCTION CO., LTD.)			USD	36,000,000	46,418	31,000,000	39
	PT. POSCO E&C INDONESIA	POSCO Asia Co., Ltd. and others	USD	25,900,000	33,395	25,900,000	33
CO STEELEON COLTD.	Myanmar POSCO C&C Company, Limited.	POSCO Asia Co., Ltd.	USD	13.986.947	18.035	11,952,170	1
CO FUTURE M CO., LTD.	ULTIUM CAM GP INC.	Investissement Quebec.					
merly, POSCO CHEMICAL CO., LTD)		Strategic Innovation Fund	CAD	299,562,500	291,966	-	
sociates and joint ventures]							
CO HOLDINGS INC.	Nickel Mining Company SAS	SMBC	EUR	46,000,000	65,623	46,000,000	65
co	LLP POSUK Titanium	SMBC	USD	13,250,000	17,085	13,250,000	13
CO INTERNATIONAL Corporation	GLOBAL KOMSCO Daewoo LLC	Hana Bank	USD	6.650.000	8.575	6.300.000	8
CO Eco & Challenge Co., Ltd.	Chun-cheon Energy Co., Ltd	Kookmin Bank and others		-,	-,	-//	
merly, POSCO ENGINEERING &	charreneon chergy co., cla	Rookmin bank and oblets					
VSTRUCTION CO.,LTD.)(*1)			KRW	149,200	149,200	137,500	13
ers]							
CO Eco & Challenge Co., Ltd.	Subcontractors for maintenance projects, etc.	Kookmin Bank and others					
merly, POSCO ENGINEERING &							
NSTRUCTION CO., LTD.) (*2)			KRW	1,535,263	1,535,263	674,016	67
CO DX(formerly, POSCO ICT)(*1)	Busan Sanseong Tunnel	Kookmin Bank	KRW	7,621	7,621	6,394	6
CO WIDE Co., Ltd.	Korea Electric Power Corporation and others	Seoul Guarantee Insurance					
rmerly, POSCO O&M Co., Ltd.)			KRW	4,527	4,527	4,527	
CO AUSTRALIA PTY LTD	Department of Trade and	Woori Bank and others					
	Investment (NSW Government) and others		AUD	16,754,695	14,745	16,754,695	14
Sio Inti Agrindo	KSU Mandob	Bank Muamalat	IDR	80,000,000,000	6,688	80,000,000,000	e
CO Maharashtra Steel Private Limited	Gail India and others	HSBC and others	INR	808,823,105	12,537	808,823,105	12
			USD -	3,533,270,354	4,555,799	2,081,057,971	2,68
			KRW	1,696,611	1,696,611	822,437	82
			IDR	1,312,000,000,000	109,683	1,240,000,000,000	103
			INR	808,823,105	12,537	808,823,105	12
			THB	4,800,000,000	180,576	3,936,000,000	14
			EUR	46,000,000	65,623	46,000,000	65
			AUD	16,754,695	14,745	16,754,695	1
			CAD	299.562.500	291.966	-	

- (*1) The contingencies include PF contracts, which provide credit enhancement through payment guarantee in relation to the SOC projects as of December 31, 2023.
- (*2) The contingencies include PF contracts, which guarantee the subcontractors progress payment loans in relation to the maintenance projects and others, as of December 31, 2023

- 2) The details of credit enhancements by types of the Company's PF business as of December 31, 2023 are as follows:
 - ① Maintenance projects and others
 - a. PF credit enhancements such as debt assumption, supplemental funding agreement etc., maturity of the related loans are as follows:

(in millions of Won)										В	stance of the loan			
Provider	Projects(*1)	Borrower	Туре	Credit enhancement measuree	Agree emour		Executed amount	Total	Within 3 months	3-6 months	6 months ~1 year	1 year ~2 years	2 years ~3 years	After 3 years
[The Company] POSCO Eco & Challenge Co., Ltd. (formerly, POSCO ENGINEERING & CONSTRUCTION CO., LTD.)	Other projects	JB CLARK HILLS	Main PF	Debt assumption	₩ 43	2,550	35,459	35,459				35,459		-
[Associates and joint ventures] POSCO Eco & Challenge Co., Ltd. (formerly, POSCO ENGINEERING & CONSTRUCTION CO.,LTD.)	Other projects	New Songdo International City Development, LLC	Mortgage loan	Debt assumption	67	3,000	520,000	467,500		446,000	21,500			
[Others] POSCO Eco & Challenge Co., Ltd. (formerly, POSCO ENGINEERING & CONSTRUCTION CO.,LTD.)	Maintenance projects	Bangbse Shindorga Apartment Reconstruction and Maintenance Project	Main PF	Debt assumption										
	Other projects	Association, etc. Mastern 123 Yeoju Samgyo PFV co., Ltd.	Main PF	Debt assumption	175	2,476	730,020	404,799	- 45,000	38,354	134,861 49,000	121,945	13,100 39,700	96,539
POSCO DX (formerly, POSCO ICT)	Other projects Other projects	Civic Center PFV Jeonnong schoo keeper co. and others	Bridge loan Main PF	Debt assumption Supplemental funding agreement		5,000 2,320	45,000	45,000 474,888				45,000		474,888
					2,265	5,296	1,033,329	1,058,387	45,000	38,354	183,861	166,945	52,800	571,427
					₩ 2,983	,846	1,588,788	1,561,346	45,000	484,354	205,361	202,404	52,800	571,427

- (*1) The maintenance project mainly consists of reconstruction and condominium construction projects, and other projects such as office buildings, retail spaces, warehouses, and educational facilities.
- b. The details of conditional debt assumption and principal and interest repayment contingencies in the event of non-compliance of responsibility completion as of December 31, 2023 are as follows:

(in millions of Won)	Number of constructions	-	Contract amount	Contingency amount(*1)(*2)	Balance of loans
Maintenance projects	23	₩	6,327,707	3,478,950	1,834,196
Other projects	1		110,341	35,000	22,523
	24	₩	6,438,048	3,513,950	1,856,719

- (*1) The overlapping amount with other credit enhancement measures such as the agreed debt assumption upon loan origination amounts to W132,300 million for the maintenance projects.
- (*2) In the case of joint subcontracting projects, the total joint guarantee amount of the project participants has been disclosed. However, the final execution amount of completion guarantee may vary depending on factors such as the reasons attributable to the project participants upon actual execution of the responsibility completion.

c. The details of contingencies of claim for damages in the event of non-compliance of responsibility completion as of December 31, 2023 are as follows:

(in millions of Won)	Number of constructions	-	Contract amount	Contingency amount(*1)(*2)	Balance of loans
Maintenance projects	2	₩	463,742	324,000	77,138
Other projects	53		10,797,925	8,648,087	6,270,750
	55	₩	11,261,667	8,972,087	6,347,888

- (*1) The overlapping amount with other credit enhancement measures such as the agreed debt assumption upon loan origination amounts to W122,200 million for the maintenance projects.
- (*2) In the case of joint subcontracting projects, the total joint guarantee amount of the project participants has been disclosed. However, the final execution amount of completion guarantee may vary depending on factors such as the reasons attributable to the project participants upon actual execution of the responsibility completion.

SOC projects

Provider	Recipient	Credit enhancement measures	Number of constructions	Approved amou	Remaining balance nt after repayment
[Associates and joint ventures]					
POSCO DX	UITrans LRT Co., Ltd(*1)	Providing funds and			
10000 5X	offians Efficie, Edit 17	debt assumption	1	₩ 81.8	83 32,952
	Pocheon-Hwado Highway Corp.(*2)	Providing funds	1	24,9	
POSCO Eco & Challenge Co., Ltd.	UITrans LRT Co., Ltd(*1)	Providing funds and			
(formerly, POSCO ENGINEERING &		debt assumption			
CONSTRUCTION CO., LTD.)			1	205.0	51 165,045
	Pocheon-Hwado Highway Corp.(*2)	Providing funds	1	319,5	
	POHANG E&E Co., LTD(*3)	Providing funds and			
		supplemental funding agreement	1	71,9	30 50,946
	Pureun Tongyeong Enviro Co., Ltd.(*3)	Providing funds	1	22,7	14 12,251
	Pure Gimpo.Co.,Ltd(*3)	Providing funds	1	51,5	59 25,189
	Clean Iksan Co.,Ltd(*3)	Providing funds	1	44,0	54 25,650
			8	821,6	40 546,145
[Others]					
POSCO DX	Western Inland highway CO.,LTD.	Providing funds	1	47,3	48 15,678
	SK Solar Energy Co., Ltd.	Debt assumption	1	5,8	50 3,114
POSCO Eco & Challenge Co., Ltd. (formerly, POSCO ENGINEERING &	Western Seoul highway CO.,LTD. and others	Supplemental funding agreement			
CONSTRUCTION CO., LTD.)			11	62,7	20 30,646
	Western Inland highway CO., LTD.	Providing funds			
	and others		44	2,884,6	
	Pohang Youngil Bay New Port	Debt assumption	1		50 1,440
	Busan Sanseong Tunnel	Refinancing	1	35,2	
		-	59	3,038,1	50 1,344,500
			67	₩ 3,859,7	90 1,890,645

- (*1) The Company provides a funding obligation agreement of W153,260 million (including other shares: W385,000 million) equivalent to the Company's share of the loan balance for the private investment project.
- (*2) The Company provides a funding obligation agreement of W344,449 million (including other shares: W623,079 million) equivalent to the Company's share of the loan balance for the private investment project.
- (*3) The Company provides a funding obligation agreement of W183,756 million (including other shares: W354,092 million) equivalent to the Company's share of the loan balance for the private investment project.

3) Other guarantees

① As of December 31, 2023, the payment guarantees that the Company provides to clients, such as contract performance guarantees, installment guarantees, and defect guarantees, by subscribing to insurance policies with guarantee insurance companies or issuing guarantee certificates are as follows:

(in millions of Won) Provider of credit enhancement	Recipient of credit enhancement	Types of guarantees		Agreed amount	Executed amount	Guarantor
[Subsidiaries]						
POSCO Eco & Challenge Co., Ltd.	Ventanas Philippines	Guarantee on performance				
(formerly, POSCO ENGINEERING &	Construction Inc	for contracts and others	₩	14,601	14,601	Credit Agricole and others
CONSTRUCTION CO., LTD.)	PT POSCO E&C INDONESIA	Guarantee on defects		1,805	1,805	Woori Bank and others
			_	16,406	16,406	
[Associates and joint ventures]						
POSCO Eco & Challenge Co., Ltd.	PT.Tanggamus Electric Power	Letter of credit		2,615	2,615	Hana Bank
(formerly, POSCO ENGINEERING &	PT. Wampu Electric Power	Letter of credit		2,837	2,837	Hana Bank
CONSTRUCTION CO., LTD.)	Pocheon-Hwado Highway Corp.	Guarantee on performance				
	(formerly, Metropolitan	for projects				Construction Guarantee
	Outer Ring Expressway co., Itd.)		_	23,315	23,315	Cooperative
				28,767	28,767	
[Others]						
POSCO Eco & Challenge Co., Ltd.	DAEWOO ENGINEERING	Guarantee on performance				
(formerly, POSCO ENGINEERING &	& CONSTRUCTION Co., Ltd	for construction				Construction Guarantee
CONSTRUCTION CO., LTD.)				8,381,876	6,686,305	Cooperative
			₩	8,427,049	6,731,478	

② As of December 31, 2023, the primary payment guarantees, etc. that the Company provided from the guarantee institution are as follows:

(in millions of Won)				
Provider	Types of guarantees		Agreed amount	Executed amount
Construction Guarantee Cooperative	Subcontractor Payment Guarantee and others	₩	6,806,423	6,793,235
Engineering guarantee insurance	Guarantee on performance for EPC contracts and others		896,888	540,075
Seoul Guarantee Insurance	Construction performance guarantee and others		571,775	571,775
Korea Housing & Urban				
Guarantee Corporation	Housing Guarantee and others		4,933,080	4,927,830
Korea software financial cooperative	Guarantee on performance for contracts			
Woori Bank and others	Foreign currency guarantee		2,042,804	786,129
		₩	15,358,838	13,724,120

(c) Other commitments

Details of other commitments of the Company as of December 31, 2023 are as follows:

(3) Other Commitments Company	Description
POSCO HOLDINGS INC.	As of December 31, 2023, POSCO HOLDINGS INC. entered into a commitment with KOREA ENERGY AGENCY for long- term foreign currency borrowings, which are limited up to the amount of USD 1.05 million. The borrowing is related to the exploration of gas hydrates in Western Fergana-Chinabad. The repayment of the borrowings depends on the success of the projects. POSCO HOLDINGS INC. is not liable for the repayment of full or part of the amount borrowed if the respective projects fail. POSCO HOLDINGS INC. has agreed to pay a certain portion of its profits under certain conditions, as defined by the borrowing agreements. As of December 31, 2023, the ending balance of the borrowing amounts to USD 1.02 million.
	POSCO HOLDINGS INC. has deposited 3,211,795 treasury shares for exchange with the Korea Securities Depository in relation to foreign currency exchangeable bonds as of December 31, 2023.
POSCO	POSCO entered into long-term contracts to purchase iron ore, coal, nickel and others. The long-term purchase contract period is more than two years for iron ore, three years for coal, and one year for nickel. These contracts provide for periodic price adjustments based on the market price. As of December 31, 2023, 43 million tons of iron ore and 15 million tons of coal remained to be purchased under such long-term contracts.
	POSCO entered into an agreement with Tangguh Liquefied Natural Gas (LNG) Consortium in Indonesia to purchase 550 thousand tons of LNG annually for 20 years commencing in August 2005. Due to decrease of purchase volume in 2023, the purchase volume will be 190 thousand tons from September 2025 to December 2026. The purchase price is subject to change, based on changes of the monthly standard oil price (JCC) and with a price ceiling.
	POSCO has a long-term service contract for the transportation of raw material. As of December 31, 2023, there are 36 vessels under contract, and the average remaining contract period is about 7 years.
	POSCO entered into an agreement (LNG SPA) with POSCO INTERNATIONAL SINGAPORE PTE LTD. to purchase 370 thousand tons of LNG annually for 15 years commencing in November 2026. The purchase price is subject to change based on changes of U.S. Henry Hub Natural Gas Spot Price. POSCO has extension option of extending the purchase contract by five years. Meanwhile, POSCO INTERNATIONAL Corporation has signed an LNG SPA with Cheniere Marketing, LLC for the purpose of supplying LNG to POSCO. As an actual buyer of LNG, POSCO provides performance guarantee for POSCO INTERNATIONAL Corporation's SPA to producer, Cheniere Marketing, LLC. The performance guarantee contract period is from September 30, 2022 to the date of expiration of SPA contract which is September 30, 2046, or the date of termination of payment obligation under the guarantee contract.
POSCO INTERNATIONAL Corporation	POSCO INTERNATIONAL Corporation operates a ship-to-ship business in which ships are chartered from ship's owners and leased out to shippers. The Company has entered into a ship purchase agreement with the ship owners and the shippers, which obliges the shippers to pay the agreed amount either at the end of the contract terms or at the agreed termination and to take over the ownership of the vessel from the ship owners. Only if the shipper fails to fulfill its obligation including payment obligation for the purchase of the vessel, the Company is obliged to take over the ship based on the condition that the shipper's contractual obligations and rights are transferred to the Company. As of December 31, 2023, the amount which is exposed to the ship purchase agreements entered into is USD 31 million.
	The Company invested in the Ambatovy Nickel Project (DMSA/AMSA) in Madagascar through the Korea Ambatovy Consortium (KAC) formed with Korea Mine Rehabilitation and Mineral Resources Corporation (KOMIR) and STX Corporation. SHERRITT INTERNATIONAL CORP., the operator, transferred a portion of the project's interests to Sumitomo and AHL (Ambatovy Holdings Limited) in November 2017, and transferred the remaining interests of the project to Sumitomo and AHL2 (Ambatovy Holdings II Limited) in August 2020. KAC has the rights and obligations to the 15.33% stake held by AHL and AHL2.
POSCO Eco & Challenge Co., Ltd. (formerly, POSCO ENGINEERING & CONSTRUCTION CO.,LTD.)	As of December 31, 2023, according to the investor agreement for the construction of Samcheok Thermal Power Plant, POSCO Eco & Challenge Co., Ltd. is obligated to make contributions for core capital, unqualified investment, excess expenses occurred for business, and acceleration of payment. Among them, the remaining amount of the core capital investment obligation is ¥43,189 million. Meanwhile, the Company invested ¥25,700 million in January, 2024 and plans to invest ¥17,489 million in March, 2024.
POSCO FUTURE MATERIALS CANADA INC. (formerly, POSCO CHEMICAL CANADA INC.)	In accordance with the GP Shareholders Agreement between POSCO FUTURE MATERIALS CANADA INC. and GM Battery Raw Materials Corporation (hereinafter referred to as GM), if, POSCO FUTURE M.C., LTD. (POSCO FUTURE MATERIALS CANADA INC's shareholders) fails to obtain approval for the export of national core technology under the 'Act On Prevention Of Divulgence And Protection Of Industrial Technology' in Korea within two years from the date of signing the agreement, GM may sell its shares of ULTIUM CAM GP INC. and ULTIUM CAM LIMITED PARTNERSHIP held by Posco Future Materials Canada Inc GM has the right to exercise this put option until the 27th month from the date of signing the agreement. When GM exercises the put option, Posco Future Materials Canada Inc. is required to immediately purchase GM's shares at a price of the fair market value of GM's shares or 125% of the total amount of capital contributions made by GM before the option and the cole with ever is more the total amount of the total amount of the program program program of the program program program of the game of the program program of the program of the program of the program of the program progra

While the closing of the sale, whichever amount is greater. As of December 31, 2023, the Company recognized W119,258 million as other financial liabilities related to the terms of this agreement.

(d) Litigation in progress

As of December 31, 2023, litigations in progress that POSCO HOLDINGS INC. and certain subsidiaries are defendants in legal actions arising from the normal course of business are as follows:

Company	Legal actions	Clai	m amount	Won equivalent	Description
OSCO HOLDINGS INC.	4	KRW	9,945	9,945	Lawsuit on claim for damages and others
OSCO	35	KRW	205,234	205,234	Lawsuit on claim for employee right and others
OSCO INTERNATIONAL Corporation	2	INR	4,469,396	69,276	Lawsuit on claim for payment on guarantees and others(*1)
	6	KRW	75,458	75,458	Lawsuit on claim for damages and others
	1	PKR	124,775	570	Lawsuit on claim for damages
	6	USD	75,389	97,207	Lawsuit on claim for damages and others(*1)
OSCO Eco & Challenge Co., Ltd.					
(formerly, POSCO ENGINEERING & CONSTRUCTION CO., LTD.)	106	KRW	428,767	428,767	Lawsuit on claim for damages and others(*1)
OSCO DX(formerly, POSCO ICT)	1	BRL	14,819	3,938	Lawsuit on claim for damages
	11	KRW	6,789	6,789	Lawsuit on claim for damages and others
OSCO FUTURE M CO., LTD. (formerly, POSCO CHEMICAL CO., LTD)	3	KRW	5,789	5,789	Lawsuit on claim for damages and others
OSCO M-TECH	1	KRW	67	67	Lawsuit on claim for damages
OSCO A&C	3	KRW	2,181	2,181	Lawsuit on claim for payment on construction and others(*
OSCO WIDE Co., Ltd.	2	KRW	563	563	Lawsuit on claim for damages and others
NtoB Corporation	1	KRW	14	14	Lawsuit on claim for damages
OSCO ASIA COMPANY LIMITED	1	USD	80	103	Lawsuit on claim for damages(*1)
OSCO-China Holding Corp.	1	USD	1,290	1,663	Lawsuit on claim for damages
OSCO-INDIA STEEL DISTRIBUTION CENTER PRIVATE LIMITED	1	INR	525,000	8,138	Lawsuit on claim for damages
OSCO(Suzhou) Automotive Processing Center Co., LTD.	2	CNY	31	6	Lawsuit on claim for invalidation of dismissal
hinan Green Energy Co., LTD	1	KRW	-	-	Lawsuit on claim for land delivery
OSCO INTERNATIONAL TEXTILE LLC.	1	USD	2,389	3,081	Lawsuit on claim for payment on contract(*1)
lingdao Pohang Stainless Steel Co., Ltd.	1	CNY	13,260	2,398	Lawsuit on claim for contract termination
OSCO Center Beijing	1	CNY	80	15	Lawsuit on claim for contract termination
OSCO Engineering and Construction India Private Limited	2	INR	493,968	7,657	Lawsuit on claim for payment and others(*1)
OSCO ENGINEERING & CONSTRUCTION					
DO BRAZIL LTDA.	78	BRL	185,366	49,257	Lawsuit on claim for payment on construction and others(*1
OSCO INDIA PROCESSING CENTER					
PRIVATE LIMITED	1	INR	54,420	844	Lawsuit on claim for damages
OSCO E&C CHINA Co., Ltd.	1	CNY	765	138	Lawsuit over contract dispute
los-Sea Pte Ltd	1	USD	3,200	4,126	Lawsuit over contract dispute
razil Sao Paulo Steel Processing Center	7	BRL	6,729	1,788	Lawsuit on claim for labor and others
OSCO Thainox Public Company Limited	1	THB	3,000	113	Lawsuit on invalidation of a check
OSCO ASSAN TST STEEL INDUSTRY Inc	13	USD	80	103	Lawsuit on claim for labor and others(*1)
OSCO TNPC Otomotiv Celik San. Ve Tic. A.S	4	TRY	1,132	49	Lawsuit over industrial accidents and others(*1)
OSCO-India Private Limited	1	INR	2.466	38	Lawsuit on claim for wages

(*1) The Company made a reliable estimate in 66 lawsuits by considering the possibility and amount of expected outflow of resources and recognized W45,712 million as provision for legal contingencies and claims.

For all the other lawsuits and claims, management does not believe the Company has any present obligations and therefore, the Company has not recognized any provisions as of December 31, 2023 for the matters.

(e) Other contingent circumstances

Other major contingencies for the Company as of December 31, 2023 are as follows:

Company	Description
POSCO HOLDINGS INC.	POSCO HOLDINGS INC. has provided 3 blank checks to Korea Energy Agency as collateral for long-term foreign currency borrowings.
	The Company has a joint obligation with the company newly established through spin-off, POSCO, to discharge all liabilities (including financial guarantee contracts) incurred prior to the spin-off date.
POSCO INTERNATIONAL Corporation	As of December 31, 2023, POSCO INTERNATIONAL Corporation has provided 29 blank promissory notes and 18 blank checks to Korea Energy Agency and others as collateral for the guarantee on performance for contracts and others.
POSCO Eco & Challenge Co., Ltd. (formerly, POSCO ENGINEERING & CONSTRUCTION CO.,LTD.)	As of December 31, 2023, POSCO Eco & Challenge Co., Ltd. has provided 41 blank checks and 4 blank promissory notes as collateral for agreements and outstanding loans.
POSCO DX (formerly, POSCO ICT)	As of December 31, 2023, POSCO DX has provided 7 blank checks to financial institutions as collateral for the guarantee on performance for contracts and others.

40. Statements of Cash Flows

(a) Changes in operating assets and liabilities for the years ended December 31, 2023 and 2022 were as follows:

(in millions of Won)		2023	2022
Trade accounts and notes receivable	₩	(1,127,629)	547,480
Other receivables		32,827	(96,141)
Inventories		1,383,720	(415,596)
Other current assets		265,296	(230,084)
Other non-current assets		(214,331)	42,767
Trade accounts and notes payable		(118,796)	141,925
Other payables		(301,561)	611,932
Other current liabilities		(344,490)	(272,505)
Provisions		(318,955)	(295,624)
Payments of severance benefits		(263,548)	(300,353)
Plan assets		(45,535)	(59,461)
Other non-current liabilities		(34,255)	(9,704)
	₩	(1,087,257)	(335,364)

(b) Changes in liabilities arising from financial activities for the year ended December 31, 2023 and 2022 were as follows:

1) December 31, 2023

(in millions of Won)

(in millions of Won)	_		Derivatives			
	_	Short-term borrowings	Long-term borrowings	Dividend payable	Finance lease liabilities	that hedge borrowings
Beginning	₩	6,833,120	17,472,542	4,371	823,482	(191,497)
Changes from financing cash flows		(2,524,077)	3,356,103	(825,495)	(222,829)	102,707
The effect of changes in foreign exchange rates		650,237	(139,863)	-	38,909	-
Changes in fair values		-	305,562	-	-	(41,201)
Other changes:						
Decrease in retained earnings		-	-	720,770	-	-
Decrease in non-controlling interest		-	-	103,615	-	-
Interest expenses		-	16,755	-	41,109	-
Increase in lease assets	_	-	-	-	243,649	-
Ending	₩	4,959,280	21,011,099	3,261	924,320	(129,991)

2) December 31, 2022

_		Derivatives			
_	Short-term borrowings	Long-term borrowings	Dividend payable	Finance lease liabilities	that hedge borrowings
₩	5,110,424	16,630,792	4,046	778,014	(107,982)
	1,764,569	415,692	(1,234,899)	(268,082)	102,973
	-	142,290	-	193,572	-
	(41,873)	355,540	-	(96,771)	-
	-	(85,790)	-	-	(186,488)
	-	-	1,138,107	-	-
	-	-	97,117	-	-
	-	14,018	-	34,935	-
_	-	-	-	181,814	-
₩	6,833,120	17,472,542	4,371	823,482	(191,497)
	_		Short-term borrowings Long-term borrowings ₩ 5,110,424 16,630,792 1,764,569 415,692 - 142,290 (41,873) 355,540 - (85,790) - - - - - - - - - - - - - - - - - - - - - - - 14,018	borrowings borrowings payable ₩ 5,110,424 16,630,792 4,046 1,764,569 415,692 (1,234,899) - 142,290 - (41,873) 355,540 - - (85,790) - - - 97,117 - 14,018 -	Short-term borrowings Long-term borrowings Dividend payable Finance lease liabilities ₩ 5,110,424 16,630,792 4,046 778,014 1,764,569 415,692 (1,234,899) (268,082) - 142,290 - 193,572 (41,873) 355,540 - (96,771) - (85,790) - - - - 97,117 - - 14,018 - 34,935 - - - 181,814

41. Operating Segments and Geographic Information

(a) The Company's operating businesses are organized based on the nature of markets and customers. During the year ended December 31, 2023, the Company changed the internal organization and internal reporting structures. As a result, operating segments were recategorized according to the revised reporting materials provided to the management for decision-making. The Company restated the reportable segment information for the year ended December 31, 2022 to conform to the 2023 segment classifications.

Segment assets, liabilities and profit (loss) are generally measured based on separate financial statements in accordance with K-IFRS of the subsidiaries that constitute reportable operating segments.

Meanwhile, the Company has classified the business segment and the subsidiaries in each segment as follows:

Operatin	ng segments	Main Business
Steel		Manufacture and sales of steel products
Green infrastructure	Trading	Supply and purchase transactions between domestic and foreign companies, power generation, and resource development
	Construction	Design, production and construction of steel mills and their facilities, commercial and residential facilities, etc.
	Logistics and others	Logistics, network and system integration business
Green Materials and energy		EV battery materials such as lithium, nickel, negative/cathode materials, and hydrogen business
Others		POSCO HOLDINGS. INC., Controlling company and Investment business

- (b) The segment profit or loss does not reflect the consolidation adjustments allocated to each entity and is determined in the same way as the consolidated net income determined by K-IFRS. Segment assets and liabilities are determined based on separate financial statements. There are various transactions of transactions between reporting segments, including disposal of property, plant and equipment and provision of construction services.
- (c) Information about reportable segments as of and for the years ended December 31, 2023 and 2022 were as follows:
 - 1) As of and for the year ended December 31, 2023

		_	Green infrastructure		Green materials			
(in millions of Won)	_	Steel	Trading	Construction	Logistics and others	and Energy	Others	Total
External revenues	₩	40,393,273	24,033,506	8,301,130	470,613	3,816,042	112,633	77,127,197
Internal revenues		23,145,425	18,910,246	1,966,373	3,475,340	1,005,844	1,449,581	49,952,809
Inter segment revenues		15,293,780	8,906,571	1,864,723	3,431,594	972,511	1,422,313	31,891,492
Total revenues		63,538,698	42,943,752	10,267,503	3,945,953	4,821,886	1,562,214	127,080,006
Interest income		281,530	66,398	100,682	15,837	39,339	73,550	577,336
Interest expenses		(718,937)	(284,056)	(105,102)	(14,091)	(57,638)	(272)	(1,180,096)
Depreciation and amortization		(3,044,565)	(508,161)	(66,854)	(54,219)	(155,567)	(16,126)	(3,845,492)
Impairment loss on property, plant and equipment and others		(305,437)	(9,826)	(28,031)	-	(55,601)	(10,657)	(409,552)
Share of income (loss) of equity-accounted investees, net		(182,668)	(37,368)	13,632	-	(67,248)	(109,568)	(383,220)
Income tax expense		(595,457)	(239, 164)	(95,364)	(39,250)	13,281	113,895	(842,059)
Segment profits (losses)		1,241,211	723,929	183,453	170,959	(235,603)	827,298	2,911,247
Segment total assets		66,224,069	19,650,557	9,631,691	2,476,842	10,909,515	51,957,529	160,850,203
Investment in subsidiaries, associates and joint ventures		3,855,038	2,933,140	481,672	9,999	1,550,524	45,084,972	53,915,345
Acquisition of non-current assets		3,748,163	553,955	119,438	137,237	2,795,447	162,639	7,516,879
Segment total liabilities		24,154,043	11,842,508	5,589,827	993,071	4,972,568	4,301,310	51,853,327

2) As of and for the year ended December 31, 2022

① The segment results as previously disclosed are as follows:

				Green infrastructure		Green materials		
(in millions of Won)		Steel	Trading	Construction	Energy and Others	and Energy	Others	Total
External revenues	₩	44,546,966	25,955,458	7,667,696	3,998,959	2,451,785	129,340	84,750,204
Internal revenues		26,102,681	23,634,302	1,217,795	3,426,549	936,975	1,040,196	56,358,498
Inter segment revenues		18,226,727	11,853,034	1,074,088	3,442,447	923,552	1,818,578	37,338,426
Total revenues		70,649,647	49,589,760	8,885,491	7,425,508	3,388,760	1,169,536	141,108,702
Interest income		141,047	37,603	68,774	23,928	22,708	(13,319)	280,741
Interest expenses		(446,058)	(156,663)	(44,309)	(56,799)	(11,770)	(84)	(715,683
Depreciation and amortization		(3,036,041)	(392,969)	(64,813)	(149,754)	(94,416)	(20,811)	(3,758,804
Impairment loss on property, plant and equipment and others		(234,904)	(23,035)	(32)	(292)	(1,053)	-	(259,316
Share of loss of equity-accounted investees, net		(6,239)	(29,541)	(2,792)	(8,552)	-	(263,264)	(310,388
Income tax expense		(565,353)	(189,535)	(92,715)	(93,210)	(14, 120)	(1,785,487)	(2,740,420
Segment profits (losses)		1,711,940	525,500	137,911	293,859	109,209	(1,087,428)	1,690,991
Segment total assets		66,143,103	15,693,605	8,878,530	6,612,825	6,652,469	51,421,190	155,401,722
Investment in subsidiaries, associates and joint ventures		2,659,443	1,821,243	565,873	957,168	600,277	44,951,810	51,555,814
Acquisition of non-current assets		3,287,878	622,678	53,708	125,942	1,169,725	370,837	5,630,768
Segment total liabilities		25,111,665	10,097,503	4,937,907	3,683,068	2,127,424	4,156,863	50,114,430

② The restated segment results due to the change of operating segments are as follows:

		_		Green infrastructure		Green materials		
(in millions of Won)		Steel	Trading	Construction	Logistics and others	and Energy	Others	Total
External revenues	₩	44,546,966	29,517,938	7,667,696	436,479	2,451,785	129,340	84,750,204
Internal revenues		26,102,681	23,677,786	1,217,795	3,383,065	936,975	1,040,196	56,358,498
Inter segment revenues		18,226,727	11,148,030	1,074,088	3,414,385	923,552	1,818,578	36,605,360
Total revenues		70,649,647	53, 195, 724	8,885,491	3,819,544	3,388,760	1,169,536	141,108,702
Interest income		141,047	51,869	68,774	9,662	22,708	(13,319)	280,741
Interest expenses		(446,058)	(202,000)	(44,309)	(11,462)	(11,770)	(84)	(715,683)
Depreciation and amortization		(3,036,041)	(495,524)	(64,813)	(47,199)	(94,416)	(20,811)	(3,758,804)
Impairment loss on property, plant and equipment and others		(234,904)	(23,096)	(32)	(231)	(1,053)		(259,316)
Share of loss of equity-accounted investees, net		(6,239)	(38,093)	(2,792)	-	-	(263, 264)	(310,388)
Income tax expense		(565,353)	(249,395)	(92,715)	(33,350)	(14,120)	(1,785,487)	(2,740,420)
Segment profits (losses)		1,711,940	716,204	137,911	103,155	109,209	(1,087,428)	1,690,991
Segment total assets		66,143,103	20,014,447	8,878,530	2,291,983	6,652,469	51,421,190	155,401,722
Investment in subsidiaries, associates and joint ventures		2,659,443	2,771,602	565,873	6,809	600,277	44,951,810	51,555,814
Acquisition of non-current assets		3,287,878	700,425	53,708	48,195	1,169,725	370,837	5,630,768
Segment total liabilities		25,111,665	12,736,310	4,937,907	1,044,261	2,127,424	4,156,863	50,114,430

(d) Reconciliations of total segment revenues, profit or loss, assets and liabilities, and other significant items to their respective consolidated financial statement line items are as follows:

1) Revenues

(in millions of Won)	_	2023	2022
Total revenue for reportable segments	₩	127,080,006	141,108,702
Elimination of inter-segment revenue		(49,952,809)	(56,358,498)
	₩	77,127,197	84,750,204

2) Profit

(in millions of Won)		2023	2022
Total profit for reportable segments	₩	2,911,247	1,690,991
Goodwill and corporate FV adjustments		172,493	(68,771)
Elimination of inter-segment profit		(1,237,891)	1,938,263
Income tax expense		789,305	453,883
Profit before income tax expense	₩	2,635,154	4,014,366

3) Assets

4)

(in millions of Won)		2023	2022
Total assets for reportable segments Investment in subsidiaries,	₩	160,850,203	155,401,722
associates and joint ventures		(48,895,081)	(46,559,264)
Goodwill and corporate FV adjustments		2,630,009	2,366,408
Elimination of inter-segment assets		(13,639,737)	(12,802,085)
	₩.	100,945,394	98,406,781
) Liabilities (in millions of Won)	_	2023	2022
Total liabilities for reportable segments	₩	51,853,327	50,114,430
Goodwill and corporate FV adjustments		242,251	215,760
Elimination of inter-segment liabilities		(10,814,081)	(10,180,810)
	₩	41,281,497	40,149,380

5) Other significant items

a) December 31, 2023

(in millions of Won)

(in millions of vvon)		Total segment	Goodwill and corporate FV adjustments	Elimination of inter-segment transactions	Consolidated
Interest income	₩	577,336	-	(75,189)	502,147
Interest expenses		(1,180,096)	-	178,807	(1,001,289)
Depreciation and amortization		(3,845,492)	(99,347)	121,559	(3,823,280)
Share of profit of equity-accounted					
investees, net		(383,220)	-	652,898	269,678
Income tax expense		(842,059)	46,116	6,638	(789,305)
Impairment loss on					
property, plant and equipment and others		(409,552)	-	3,799	(405,753)

b) December 31, 2022

(in millions of Won)

		Total segment	Goodwill and corporate FV adjustments	Elimination of inter-segment transactions	Consolidated
Interest income	₩	280,741	-	(33,736)	247,005
Interest expenses		(715,683)	-	108,225	(607,458)
Depreciation and amortization		(3,758,804)	(95,195)	166,378	(3,687,621)
Share of profit of equity-accounted					
investees, net		(310,388)	-	986,648	676,260
Income tax expense		(2,740,420)	25,803	2,260,734	(453,883)
Impairment loss on					
property, plant and equipment and others		(259,316)	-	(324,529)	(583,845)

POSCO HOLDINGS INC. and Subsidiaries Notes to the Consolidated Financial Statements, Continued As of December 31, 2023 and 2022

(e) Revenue by geographic area for the years ended December 31, 2023 and 2022 was as follows:

(in millions of Won)		2023	2022
Domestic	\mathbf{W}	50,658,510	54,519,647
Japan		2,691,788	2,651,584
China		6,152,191	7,430,619
Indonesia		3,422,647	3,282,888
Asia-other		7,287,382	9,331,724
North America		2,095,705	2,413,054
Europe		2,468,508	2,811,444
Others		2,350,466	2,309,244
	₩	77,127,197	84,750,204

(f) Non-current assets by geographic area as of December 31, 2023 and 2022 are as follows:

(in millions of Won)		2023	2022
Domestic	₩	31,585,233	28,623,582
Japan		132,229	139,636
China		1,222,358	1,199,461
Indonesia		2,859,375	3,025,737
Asia-other		1,662,482	1,742,673
North America		526,654	323,543
Europe		268,787	282,170
Others		3,280,208	2,356,875
	₩	41,537,326	37,693,677

Non-current assets by geographic area include investment property, property, plant and equipment, goodwill and other intangible assets.

(g) There are no customers whose revenue is 10% or more of the consolidated revenue.

42. Business Combination

(a) General Information

As of March 30, 2023, the Company acquired 50% of the remaining shares of QSONE Co.,Ltd. which had previously been classified as an associate, and classified the entity as a wholy owned subsidiary. QSONE Co.,Ltd. owns POSCO Tower Yeoksam, located in Seoul, South Korea, and operates in the business of real estate rental and facility management. With QSONE Co.,Ltd.'s inclusion as a subsidiary, the Company plans to reallocate some of consolidated entities which are dispersed due to space limitation, and expects that the Company will ultimately be able to promote collaboration and improve work efficiency.

Had QSONE Co.,Ltd. been acquired on January 1, 2023, the Company's revenue and profit would have been W77,130,652 million and W1,846,904 million. In addition, revenue and profit based on separate financial statements of QSONE Co.,Ltd. after the acquisition are W18,044 million and W6,307 million.

(b) Consideration transferred

As of the acquisition date, the fair values of the major categories of the consideration transferred in the acquisition are as follows:

March 30, 2023	
152,749 268.951	

(*1) As a result of reassessing 50% of the shares previously held by the Company at fair value, a gain on disposal of ₩184,556 million has been recognized as other non-operating income in the consolidated statement of comprehensive income.

(c) Identifiable assets acquired and liabilities assumed

The fair value of the identifiable assets acquired and liabilities assumed as of the date of acquisition is as follows:

(in millions of Won)	March 30, 2023	
Assets		
Cash and cash equivalents Trade accounts, notes receivable	\mathbf{W}	2,220
and other receivables, net		205
Other financial assets		12,000
Other current assets		132
Total current assets		14,557
Other receivables, net		41
Investment property, net		557,040
Property, plant and equipment, net		42,641
Deferred tax assets		10
Total non-current assets		599,732
Total assets	₩	614,289
Liabilities		
Short-term borrowings	₩	10,000
Other payables		5,612
Current income tax liabilities		401
Other current liabilities		812
Total current liabilities		16,825
Long-term borrowings		48,000
Other payables		6,546
Other non-current liabilities		967
Deferred tax liabilities		77,019
Total non-current liabilities		132,532
Total liabilities	₩	149,357
Net assets	₩	464,932

(d) Gain on bargain purchase

The acquisition cost for the remaining 50% shares held by the seller was determined by comprehensively considering factors based on the sales contract, such as the fair value increase of POSCO Tower Yeoksam during the seller's investment period, target earnings which is calculated by deducting amounts paid by QSONE Co.,Ltd. to the seller as a right of shareholder and creditor, from the seller's initial investment. Therefore, gain on bargain purchase from this business combination is W41,072 million which the Company recognized as other non-operating income.

(e) Costs related to business combination

During the year ended December 31, 2023 expenses related to the business combination, including evaluation fees were W179 million, which the Company recognized as other administrative expenses in the consolidated statements of comprehensive income.

43. Events after the reporting period

On January 23, 2024, POSCO, a subsidiary, issued non-guaranteed senior dollar bonds (issued amount \$500 million, nominal interest rate 4.875%). The maturity of the bonds is January 23, 2027.

Notice to Readers

This report is annexed in relation to the audit of the consolidated financial statements as of December 31, 2023 and the audit of internal accounting control system for consolidation purposes pursuant to Article 8-7 of the Act on External Audit for Joint-stock Companies of the Republic of Korea.



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Independent Auditors' Report on Internal Control over Financial Reporting for Consolidation Purposes

English Translation of a Report Originally Issued in Korean

To the Shareholders and Board of Directors of POSCO HOLDINGS INC.:

Opinion on Internal Control over Financial Reporting for Consolidation Purposes

We have audited POSCO HOLDINGS INC. and its subsidiaries' (the "Company") internal control over financial reporting ("ICFR") for consolidation purposes as of December 31, 2023 based on the criteria established in the Conceptual Framework for Designing and Operating ICFR ("ICFR Design and Operation Framework") issued by the Operating Committee of Internal Control over Financial Reporting in the Republic of Korea (the "ICFR Committee").

In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2023, based on ICFR Design and Operation Framework.

We also have audited, in accordance with Korean Standards on Auditing ("KSAs"), the consolidated financial statements of the Company, which comprise the consolidated statements of financial position as of December 31, 2023 and 2022, the consolidated statements of comprehensive income, changes in equity and cash flows for the years then ended, and notes, comprising summary of material accounting policy information and other explanatory information, and our report dated March 13, 2024 expressed an unmodified opinion on those consolidated financial statements.

Basis for Opinion on internal Control over Financial Reporting for Consolidation Purposes

We conducted our audit in accordance with KSAs. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Internal Control over Financial Reporting consolidation purposes section of our report. We are independent of the Company in accordance with the ethical requirements that are relevant to our audit of the internal control over financial reporting in Republic of Korea, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Those Charged with Governance for the Internal Control over Financial Reporting for Consolidation Purposes

The Company's management is responsible for designing, operating and maintaining effective internal control over financial reporting for consolidation purposes and for its assessment of the effectiveness of internal control over financial reporting for consolidation purposes, included in the accompanying Report on Operating Status of Internal Control over Financial Reporting for Consolidation Purposes,

Those charged with governance are responsible for overseeing the Company's internal control over financial reporting for consolidation purposes.

Auditors' Responsibilities for the Audit of the Internal Control over Financial Reporting for **Consolidation Purposes**

Our responsibility is to express an opinion on the Company's internal control over financial



reporting for consolidation purposes based on our audit. We conducted our audit in accordance with KSAs. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting for consolidation purposes was maintained in all material respects.

Our audit of internal control over financial reporting for consolidation purposes included obtaining an understanding of internal control over financial reporting for consolidation purposes, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk.

Definition and Limitations of Internal Control over Financial Reporting for Consolidation Purposes

A company's internal control over financial reporting for consolidation purposes is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with Korean International Financial Reporting Standards ("K-IFRS"). A company's internal control over financial reporting for consolidation purposes includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with K-IFRS, and that receipts and expenditures of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, internal control over financial reporting for consolidation purposes may not prevent or detect material misstatements in the consolidated financial statements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

The engagement partner on the audit resulting in this independent auditors' report is Jae Nam Hwang.

KPMG Samjory Accounting Corp.

Seoul, Korea March 13, 2024

This report is effective as of March 13, 2024, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the internal control over financial reporting. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

Report on Operating Status of Internal Control over Financial Reporting

for Consolidation Purposes

English Translation of a Report Originally Issued in Korean

To the Shareholders, Board of Directors and Audit Committee of POSCO HOLDINGS INC.

We, as the Chief Executive Officer and the Internal Control Officer of POSCO HOLDINGS INC. and its subsidiaries(the "Company"), assessed operating status of the Company's Internal Control over Financial Reporting("ICFR") for Consolidation Purposes as of December 31, 2023.

Design and operation of ICFR for Consolidation Purposes is the responsibility of the Company's management, including the Chief Executive Officer and the Internal Control Officer (collectively, "We").

We evaluated whether the Company effectively designed and operated its ICFR for Consolidation Purposes to prevent and detect errors or frauds which may cause a misstatement in consolidated financial statements to ensure preparation and disclosure of reliable financial information.

We used the 'Guidelines for Internal Control over Financial Reporting' for evaluating design and operation of the Company's ICFR for Consolidation Purposes, established by the Operating Committee of Internal Control over Financial Reporting in Korea (the "ICFR Committee").

Based on our assessment, we concluded that the Company's ICFR for Consolidation Purposes is designed and operated effectively as of December 31, 2023, in all material respects, in accordance with the 'Guidelines for Internal Control over Financial Reporting'.

We certify that this report does not contain any untrue statement of a fact, or omit to state a fact necessary to be presented herein. We also certify that this report does not contain or present any statements which might cause material misunderstandings of the readers, and we have reviewed and verified this report with sufficient care.

January 26, 2024

/s/ Jeong, Ki-Seop, Chief Executive Officer /s/ Kim, Seung-Jun, Internal Control Officer