



**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

Form 6-K

**REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15D-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934**

For the month of March, 2023

Commission File Number: 1-13368

POSCO HOLDINGS INC.

(Translation of registrant's name into English)

POSCO Center, 440 Teheran-ro, Gangnam-gu, Seoul, Korea, 06194
(Address of principal executive office)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F Form 40-F

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1):

Note: Regulation S-T Rule 101(b)(1) only permits the submission in paper of a Form 6-K if submitted solely to provide an attached annual report to security holders.

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7):

Note: Regulation S-T Rule 101(b)(7) only permits the submission in paper of a Form 6-K if submitted to furnish a report or other document that the registrant foreign private issuer must furnish and make public under the laws of the jurisdiction in which the registrant is incorporated, domiciled or legally organized (the registrant's "home country"), or under the rules of the home country exchange on which the registrant's securities are traded, as long as the report or other document is not a press release, is not required to be and has not been distributed to the registrant's security holders, and, if discussing a material event, has already been the subject of a Form 6-K submission or other Commission filing on EDGAR.



POSCO HOLDINGS INC. is furnishing under cover of Form 6-K:

Exhibit 99.1: An English-language translated documents of Consolidated Financial Statements audited by independent auditors



SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

POSCO HOLDINGS INC.
(Registrant)

Date: March 14, 2023

By /s/ Han, Young-Ah
(Signature)
Name: Han, Young-Ah
Title: Senior Vice President



**POSCO HOLDINGS INC.
and Subsidiaries
Consolidated Financial Statements
December 31, 2022 and 2021**

(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, 2022 and 2021, the consolidated statements of comprehensive income, changes in equity and cash flows for the years then ended, and notes, comprising significant accounting policies 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, 2022 and 2021, 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").

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.

Emphasis of Matters

(a) Spin-off

We draw attention to Note 1 to the consolidated financial statements, which describes the spin-off by the former POSCO, the controlling company on March 1, 2022. Upon completion of the spin-off, the surviving company was renamed as POSCO HOLDINGS INC., and a new subsidiary, POSCO, was established. Our opinion is not modified in respect of this matter.

(b) Impairment loss for property, plant and equipment and inventories due to the flooding of the Naengcheon stream in Pohang.

We draw attention to Notes 2, 9 and 14 to the consolidated financial statements, which state that the Company recognized ₩207,072 million and ₩95,278 million of impairment loss for property, plant and equipment and inventories due to the flooding damage to the Pohang works. In addition, as disclosed in note 34, insurance payments of ₩234,000 million have been received and discussions are in progress regarding additional compensation. Our opinion is not modified in respect of this matter.



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, 2022. 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) Assessment of goodwill impairment in the POSCO INTERNATIONAL Corporation cash generating unit

As described in note 15(c) to the consolidated financial statements, goodwill amounted to ₩442,487 million as of December 31, 2022, which includes goodwill allocated to the cash-generating unit (“CGU”) of POSCO INTERNATIONAL Corporation of ₩240,092 million. During the year ended December 31, 2022, the Company recognized goodwill impairment loss of ₩337,953 million in the POSCO INTERNATIONAL Corporation CGU .

The Company performed goodwill impairment test for POSCO INTERNATIONAL Corporation CGU by estimating its value-in-use. In estimating the value-in-use, management’s judgment is involved in determining key assumptions such as estimated sales, discount rate and terminal growth rate. These assumptions have a significant impact on the estimated value-in-use. Considering the significant degree of judgment in estimating value-in-use and the likelihood of existence of management bias, we identified the assessment of goodwill impairment related to POSCO INTERNATIONAL Corporation CGU 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 goodwill impairment assessment process;
- Evaluating the key assumptions (including estimated sales) used to determine the value-in-use by comparison with the latest financial budgets approved by the Board of Directors, historical performance and industry reports;
- Comparing the estimated sales prepared in prior year with the current year’s performance to assess the Company’s ability to accurately forecast;
- Assessing the terminal growth rate by comparison with observable market information
- Performing sensitivity analysis on the discount rate, terminal growth rate and estimated sales applied to assess the impact of changes in these key assumptions on the results of management’s impairment assessment; and
- Engaging our valuation specialists to assist us in evaluating the discount rate used in the valuation by comparing it against a discount rate that was independently developed using observable information.



(b) Estimation of percentage-of-completion by the input method

As described in notes 3 (“Construction work in progress” and “Revenue from contracts with customers”), 29 and 30 to the consolidated financial statements, revenue from construction contract amounted to ₩7,545,508 million, which was approximately 8.9% of consolidated sales for the year ended December 31, 2022. Such revenue is primarily related to 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, outsourced services 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 as a key audit matter.

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

- 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.

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, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.
- 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 Yang Ki Jung.

Seoul, Korea
March 9, 2023

This report is effective as of March 9, 2023, 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.



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POSCO HOLDINGS INC. and Subsidiaries
Consolidated Statements of Financial Position
As of December 31, 2022 and 2021

<i>(in millions of Won)</i>	<u>Notes</u>	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Assets			
Cash and cash equivalents	4,5,23	₩ 8,053,108	4,775,166
Trade accounts and notes receivable, net	6,17,23,30,38	9,769,553	10,061,982
Other receivables, net	7,23,38	2,112,697	2,104,610
Other short-term financial assets	8,23	10,909,920	13,447,717
Inventories	9	15,472,417	15,215,098
Current income tax assets	36	243,829	23,229
Assets held for sale	10	12,003	78,470
Other current assets	16	1,075,939	915,358
Total current assets		<u>47,649,466</u>	<u>46,621,630</u>
Long-term trade accounts and notes receivable, net	6,23	24,033	63,205
Other receivables, net	7,23,38	1,520,331	1,415,143
Other long-term financial assets	8,23	2,332,538	2,119,674
Investments in associates and joint ventures	11	4,996,551	4,514,647
Investment property, net	13	1,074,031	1,086,077
Property, plant and equipment, net	14	31,781,195	29,596,698
Intangible assets, net	15	4,838,451	4,166,309
Defined benefit assets, net	21	520,659	255,858
Deferred tax assets	36	3,502,152	1,433,766
Other non-current assets	16	167,374	198,607
Total non-current assets		<u>50,757,315</u>	<u>44,849,984</u>
Total assets		<u>₩ 98,406,781</u>	<u>91,471,614</u>

See accompanying notes to the consolidated financial statements



POSCO HOLDINGS INC. and Subsidiaries
Consolidated Statements of Financial Position, Continued
As of December 31, 2022 and 2021

<i>(in millions of Won)</i>	Notes	December 31, 2022	December 31, 2021
Liabilities			
Trade accounts and notes payable	23,38	₩ 5,520,807	5,468,175
Short-term borrowings and current installments of long-term borrowings	4,17,23	11,915,994	8,830,067
Other payables	18,23,38	2,865,868	2,189,361
Other short-term financial liabilities	19,23	106,527	111,641
Current income tax liabilities	36	502,685	2,139,718
Liabilities directly associated with the assets held for sale	10	5	189
Provisions	20	515,988	399,984
Other current liabilities	22,29	1,760,316	1,944,488
Total current liabilities		<u>23,188,190</u>	<u>21,083,623</u>
Long-term trade accounts and notes payable	23,38	15	694
Long-term borrowings, excluding current installments	4,17,23	12,389,667	12,911,149
Other payables	18,23	790,402	679,009
Other long-term financial liabilities	19,23	87,052	23,996
Defined benefit liabilities, net	21	37,707	50,842
Deferred tax liabilities	36	2,924,552	1,271,775
Long-term provisions	20	579,918	589,092
Other non-current liabilities	22	151,877	56,491
Total non-current liabilities		<u>16,961,190</u>	<u>15,583,048</u>
Total liabilities		<u>40,149,380</u>	<u>36,666,671</u>
Equity			
Share capital	24	482,403	482,403
Capital surplus	24,28	1,400,832	1,387,960
Hybrid bonds	25	—	199,384
Reserves	26	(443,990)	(666,985)
Treasury shares	27	(1,892,308)	(2,508,294)
Retained earnings		52,965,179	51,532,887
Equity attributable to owners of the controlling company		<u>52,512,116</u>	<u>50,427,355</u>
Non-controlling interests	25	5,745,285	4,377,588
Total equity		<u>58,257,401</u>	<u>54,804,943</u>
Total liabilities and equity		<u>₩ 98,406,781</u>	<u>91,471,614</u>

See accompanying notes to the consolidated financial statements.



POSCO HOLDINGS INC. and Subsidiaries
Consolidated Statements of Comprehensive Income
For the years ended December 31, 2022 and 2021

(in millions of Won, except per share information)

	Notes	2022	2021
Revenue	29,30,38	₩ 84,750,204	76,332,345
Cost of sales	30,32,35,38	(77,100,912)	(64,451,219)
Gross profit		7,649,292	11,881,126
Selling and administrative expenses	31,35		
Impairment loss on trade accounts and notes receivable	23	(24,791)	(40,153)
Other administrative expenses	28,32	(2,479,966)	(2,209,809)
Selling expenses		(294,482)	(393,075)
Operating profit		4,850,053	9,238,089
Share of profit of equity-accounted investees, net	11	676,260	649,569
Finance income and costs	23,33		
Finance income		4,834,011	2,730,110
Finance costs		(5,804,466)	(2,765,175)
Other non-operating income and expenses	34		
Reversal of (impairment loss) on other receivables	23	(9,824)	12,975
Other non-operating income		592,017	577,997
Other non-operating expenses	35	(1,123,685)	(1,027,492)
Profit before income tax		4,014,366	9,416,073
Income tax expense	36	(453,882)	(2,220,183)
Profit		3,560,484	7,195,890
Other comprehensive income (loss)			
Items that will not be reclassified subsequently to profit or loss:			
Remeasurements of defined benefit plans	21	105,769	51,155
Net changes in fair value of equity investments at fair value through other comprehensive income	23	(10,076)	214,888
Items that are or may be reclassified subsequently to profit or loss:			
Capital adjustment arising from investments in equity-accounted investees		133,134	165,106
Foreign currency translation differences		4,024	386,141
Gains or losses on valuation of derivatives	23	1,023	309
Other comprehensive income, net of tax		233,874	817,599
Total comprehensive income		₩ 3,794,358	8,013,489
Profit attributable to:			
Owners of the controlling company		₩ 3,144,087	6,617,239
Non-controlling interests		416,397	578,651
Profit		₩ 3,560,484	7,195,890
Total comprehensive income attributable to :			
Owners of the controlling company		₩ 3,380,649	7,384,571
Non-controlling interests		413,709	628,918
Total comprehensive income		₩ 3,794,358	8,013,489
Earnings per share (in Won)	37		
Basic earnings per share (in Won)		41,456	87,330
Diluted earnings per share (in Won)		₩ 39,126	85,377

See accompanying notes to the consolidated financial statements.



POSCO HOLDINGS INC. and Subsidiaries
Consolidated Statements of Changes in Equity
For the years ended December 31, 2022 and 2021

(in millions of Won)

	Attributable to owners of the controlling company						Subtotal	Non-controlling interests	Total
	Share capital	Capital surplus	Hybrid bonds	Reserves	Treasury shares	Retained earnings			
Balance as of January 1, 2021	₩ 482,403	1,310,547	199,384	(1,380,918)	(2,391,523)	46,111,457	44,331,350	3,343,242	47,674,592
Comprehensive income:									
Profit	—	—	—	—	—	6,617,239	6,617,239	578,651	7,195,890
Other comprehensive income									
Remeasurements of defined benefit plans, net of tax	—	—	—	—	—	44,405	44,405	6,749	51,154
Capital adjustment arising from investments in equity-accounted investees, net of tax	—	—	—	160,343	—	—	160,343	4,764	165,107
Net changes in fair value of equity investments at fair value through other comprehensive income, net of tax	—	—	—	205,924	—	8,948	214,872	16	214,888
Foreign currency translation differences, net of tax	—	—	—	347,469	—	—	347,469	38,672	386,141
Gains or losses on valuation of derivatives, net of tax	—	—	—	243	—	—	243	66	309
Total comprehensive income	—	—	—	713,979	—	6,670,592	7,384,571	628,918	8,013,489
Transactions with owners of the controlling company, recognized directly in equity:									
Year-end dividends	—	—	—	—	—	(342,565)	(342,565)	(62,230)	(404,795)
Interim dividends	—	—	—	—	—	(907,507)	(907,507)	—	(907,507)
Changes in subsidiaries	—	—	—	—	—	—	—	15,034	15,034
Changes in ownership interest in subsidiaries	—	83,547	—	—	—	—	83,547	459,917	543,464
Interest of hybrid bonds	—	—	—	—	—	(9,200)	(9,200)	(7,254)	(16,454)
Acquisition of treasury shares	—	—	—	—	(116,771)	—	(116,771)	—	(116,771)
Others	—	(6,134)	—	(46)	—	10,110	3,930	(39)	3,891
Total transactions with owners of the controlling company	—	77,413	—	(46)	(116,771)	(1,249,162)	(1,288,566)	405,428	(883,138)
Balance as of December 31, 2021	₩ 482,403	1,387,960	199,384	(666,985)	(2,508,294)	51,532,887	50,427,355	4,377,588	54,804,943

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, 2022 and 2021

(in millions of Won)

	Attributable to owners of the controlling company							Non-controlling interests	Total
	Share capital	Capital surplus	Hybrid bonds	Reserves	Treasury shares	Retained earnings	Subtotal		
Balance as of January 1, 2022	<u>₩482,403</u>	<u>1,387,960</u>	<u>199,384</u>	<u>(666,985)</u>	<u>(2,508,294)</u>	<u>51,532,887</u>	<u>50,427,355</u>	<u>4,377,588</u>	<u>54,804,943</u>
Comprehensive income:									
Profit	—	—	—	—	—	3,144,087	3,144,087	416,397	3,560,484
Other comprehensive income									
Remeasurements of defined benefit plans, net of tax	—	—	—	—	—	67,167	67,167	38,602	105,769
Capital adjustment arising from investments in equity-accounted investees, net of tax	—	—	—	126,278	—	—	126,278	6,856	133,134
Net changes in fair value of equity investments at fair value through other comprehensive income, net of tax	—	—	—	49,516	—	(59,576)	(10,060)	(16)	(10,076)
Foreign currency translation differences, net of tax	—	—	—	52,725	—	—	52,725	(48,701)	4,024
Gains or losses on valuation of derivatives, net of tax	—	—	—	452	—	—	452	571	1,023
Total comprehensive income	<u>—</u>	<u>—</u>	<u>—</u>	<u>228,971</u>	<u>—</u>	<u>3,151,678</u>	<u>3,380,649</u>	<u>413,709</u>	<u>3,794,358</u>
Transactions with owners of the controlling company, recognized directly in equity:									
Year-end dividends	—	—	—	—	—	(378,128)	(378,128)	(82,110)	(460,238)
Interim dividends	—	—	—	—	—	(758,492)	(758,492)	—	(758,492)
Changes in subsidiaries	—	—	—	—	—	—	—	422,424	422,424
Changes in ownership interest in subsidiaries	—	(7,827)	—	—	—	—	(7,827)	425,871	418,044
Interest of hybrid bonds	—	—	—	—	—	(1,487)	(1,487)	(15,007)	(16,494)
Variation due to split	—	—	(199,384)	—	—	—	(199,384)	199,384	—
Disposal of treasury stock	—	9,491	—	—	48,512	—	58,003	—	58,003
Retirement of treasury stock	—	—	—	—	567,474	(583,485)	(16,011)	—	(16,011)
Share-based payment	—	12,115	—	—	—	—	12,115	—	12,115
Others	—	(907)	—	(5,976)	—	2,206	(4,677)	3,426	(1,251)
Total transactions with owners of the controlling company	<u>—</u>	<u>12,872</u>	<u>(199,384)</u>	<u>(5,976)</u>	<u>615,986</u>	<u>(1,719,386)</u>	<u>(1,295,888)</u>	<u>953,988</u>	<u>(341,900)</u>
Balance as of December 31, 2022	<u>₩482,403</u>	<u>1,400,832</u>	<u>—</u>	<u>(443,990)</u>	<u>(1,892,308)</u>	<u>52,965,179</u>	<u>52,512,116</u>	<u>5,745,285</u>	<u>58,257,401</u>

See accompanying notes to the consolidated financial statements.



POSCO HOLDINGS INC. and Subsidiaries
Consolidated Statements of Cash Flows
For the years ended December 31, 2022 and 2021

(in millions of Won)

	Notes	2022	2021
Cash flows from operating activities			
Profit		₩ 3,560,484	7,195,890
Adjustments for:			
Depreciation		3,204,744	3,135,345
Amortization		488,835	444,100
Finance income		(1,943,661)	(1,270,044)
Finance costs		2,532,735	1,257,112
Income tax expense		453,883	2,220,183
Impairment loss on property, plant and equipment		213,183	311,520
Gain on disposal of property, plant and equipment		(18,502)	(12,016)
Loss on disposal of property, plant and equipment		111,082	95,720
Impairment loss on goodwill and other intangible assets		370,663	224,328
Gain on disposal of investments in subsidiaries, associates and joint ventures		(13,904)	(85,981)
Loss on disposal of investments in subsidiaries, associates and joint ventures		12,400	12,882
Share of profit of equity-accounted investees		(676,260)	(649,569)
Gain on disposal of assets held for sale		(55,262)	(60,208)
Expenses related to post-employment benefit		228,611	243,567
Impairment loss on trade and other receivables		34,615	27,178
Loss on valuation of inventories		259,678	78,783
Increase to provisions		289,915	159,592
Compensation for insured losses		(236,344)	—
Others, net		32,346	(37,287)
		<u>5,288,757</u>	<u>6,095,205</u>
Changes in operating assets and liabilities	40	(335,364)	(7,070,574)
Interest received		249,751	279,554
Interest paid		(560,766)	(433,794)
Dividends received		757,502	782,053
Income taxes paid		(2,773,599)	(588,969)
Net cash provided by operating activities		<u>₩ 6,186,765</u>	<u>6,259,365</u>

See accompanying notes to the consolidated financial statements.



POSCO HOLDINGS INC. and Subsidiaries
Consolidated Statements of Cash Flows, Continued
For the years ended December 31, 2022 and 2021

<i>(in millions of Won)</i>	Notes	2022	2021
Cash flows from investing activities			
Acquisitions of short-term financial instruments		₩(89,327,182)	(41,797,503)
Proceeds from disposal of short-term financial instruments		91,539,884	40,336,417
Increase in loans		(1,087,409)	(526,643)
Collection of loans		1,086,964	568,536
Acquisitions of securities		(493,054)	(300,807)
Proceeds from disposal of securities		332,724	273,935
Acquisitions of long-term financial instruments		(21,638)	(289,612)
Acquisitions of investment in subsidiaries, associates and joint ventures		(518,158)	(492,435)
Proceeds from disposal of investment in subsidiaries, associates and joint ventures		169,365	61,013
Acquisitions of investment property		(1,561)	(91,880)
Proceeds from disposal of investment property		23,401	3,809
Acquisitions of property, plant and equipment		(4,927,586)	(3,068,591)
Proceeds from disposal of property, plant and equipment		864	(11,117)
Acquisitions of intangible assets		(492,873)	(431,122)
Proceeds from disposal of intangible assets		7,748	9,485
Proceeds from disposal of assets held for sale		111,488	67,293
Collection of lease receivables		54,614	97,701
Payment for acquisition of business, net of cash acquired		—	5,472
Cash outflows due to business combinations		(901,223)	—
Cash received as compensation for insured losses		236,344	—
Others, net		(12,583)	2,542
Net cash used in investing activities		<u>(4,219,871)</u>	<u>(5,583,507)</u>
Cash flows from financing activities			
	40		
Proceeds from borrowings		4,553,746	4,358,955
Repayment of borrowings		(4,138,054)	(3,719,542)
Proceeds from (repayment of) short-term borrowings, net		1,764,569	(329,897)
Capital contribution from non-controlling interests		577,330	660,488
Payment of cash dividends		(1,218,405)	(1,310,920)
Acquisition of treasury shares		—	(116,771)
Payment of interest of hybrid bonds		(16,494)	(16,493)
Repayment of lease liabilities		(268,082)	(281,288)
Others, net		64,798	(13,198)
Net cash provided by (used in) financing activities		<u>1,319,408</u>	<u>(768,666)</u>
Effect of exchange rate fluctuation on cash held		<u>(8,740)</u>	<u>112,950</u>
Net increase in cash and cash equivalents		3,277,562	20,142
Cash and cash equivalents at beginning of the period	5,10	4,775,720	4,755,578
Cash and cash equivalents at end of the period	5,10	<u>₩ 8,053,282</u>	<u>4,775,720</u>

See accompanying notes to the consolidated financial statements.



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements
As of December 31, 2022 and 2021

1. General Information

General information about POSCO HOLDINGS INC., its 45 domestic subsidiaries including POSCO, 135 foreign subsidiaries including POSCO America Corporation (collectively “the Company”) and its 130 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, 2022, POSCO HOLDINGS INC.’s shareholders are as follows:

<u>Shareholder’s name</u>	<u>Number of shares</u>	<u>Ownership (%)</u>
National Pension Service	7,706,725	9.11
BlackRock Fund Advisors (*1)	4,390,734	5.19
The Government of Singapore (GIC)	3,336,926	3.95
Nippon Steel Corporation	2,894,712	3.42
FMR LLC (Fidelity Management & Research)	2,783,481	3.29
Others	63,458,652	75.04
	<u>84,571,230</u>	<u>100.00</u>

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

As of December 31, 2022, the shares of POSCO HOLDINGS INC. (Formerly, POSCO) are listed on the Korea Exchange, while its ADRs are listed on the New York Stock Exchange.



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(b) Consolidated subsidiaries

Details of consolidated subsidiaries as of December 31, 2022 and 21 are as follows:

Principal operations	Ownership (%)							Region
	December 31, 2022			December 31, 2021				
	POSCO HOLDINGS	Subsidiaries	Total	POSCO HOLDINGS	Subsidiaries	Total		
[Domestic]								
POSCO	Steel, rolled products and plates	100.00	—	100.00	—	—	—	Pohang
POSCO ENGINEERING & CONSTRUCTION, CO., LTD.	Engineering and construction	52.80	—	52.80	52.80	—	52.80	Pohang
POSCO STEELEON Co., Ltd. (formerly, POSCO COATED & COLOR STEEL Co., Ltd.)	Coated steel manufacturing	—	56.87	56.87	56.87	—	56.87	Pohang
POSCO ICT	Computer hardware and software distribution	65.38	—	65.38	65.38	—	65.38	Pohang
POSCO Research Institute	Economic research and consulting	100.00	—	100.00	100.00	—	100.00	Seoul
POSCO O&M CO., Ltd.	Business facility maintenance	47.17	52.83	100.00	47.17	52.83	100.00	Seoul
POSCO A&C	Architecture and consulting	45.66	54.34	100.00	45.66	54.34	100.00	Seoul
POSCO Venture Capital Co., Ltd.	Investment in venture companies	95.00	—	95.00	95.00	—	95.00	Pohang
eNtoB Corporation	Electronic commerce	—	69.32	69.32	7.50	59.94	67.44	Seoul
POSCO CHEMICAL CO., LTD.	Refractories, Anode/Cathode materials manufacturing and sales	59.76	—	59.76	59.72	—	59.72	Pohang
POSCO FLOW Co., Ltd. (formerly, POSCO-Terminal Co., Ltd.)	Transporting and warehousing	100.00	—	100.00	100.00	—	100.00	Gwangyang
POSCO M-TECH	Packing materials manufacturing and sales	—	48.85	48.85	48.85	—	48.85	Pohang
POSCO ENERGY CO., LTD.	Generation of electricity	100.00	—	100.00	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	—	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	—	100.00	100.00	Incheon
POSCO Group University	Education service and real estate business	100.00	—	100.00	100.00	—	100.00	Incheon
Growth Ladder POSCO K-Growth Global Fund	Investment in venture companies	—	50.00	50.00	—	50.00	50.00	Pohang
2015 POSCO New technology II Fund	Investment in venture companies	—	—	—	—	25.00	25.00	Pohang
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	Seoul
POSCO Humans	Business assistance service	—	100.00	100.00	75.49	24.51	100.00	Pohang
Mapo Hibroad Parking Co., Ltd.	Construction	—	71.00	71.00	—	71.00	71.00	Seoul
Busan E&E Co., Ltd.	Refuse derived fuel and power generation	70.00	—	70.00	70.00	—	70.00	Busan
POSCO INTERNATIONAL Corporation	Trading, energy & resource development and others	62.92	—	62.92	62.91	0.03	62.94	Incheon
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	Incheon
Korea Fuel Cell	Fuel cell	—	100.00	100.00	—	100.00	100.00	Pohang
POSCO GEM 1st 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	Cheonan
P&O Chemical Co., Ltd.	Chemical production	—	51.00	51.00	—	51.00	51.00	Gwangyang
Posco New Growth	Investment in venture companies	99.67	0.18	99.85	99.66	0.34	100.00	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	100.00	—	100.00	Gwangyang
POSCO-HY Clean Metal Co., Ltd.	Non-ferrous metal smelting	—	65.00	65.00	65.00	—	65.00	Gwangyang
Consus PF Private Real Estate Fund	REITs	—	66.67	66.67	—	66.67	66.67	—
New Energy Hub	Electricity and gas supply	50.00	50.00	100.00	87.44	12.56	100.00	Gwangyang
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	Shinahn
eSteel4U	Wholesales and retail	—	61.12	61.12	—	—	—	Seoul
POSCO Social Investment Fund	Investment in venture companies	20.00	50.00	70.00	—	—	—	Pohang
POSCO Silicon Solution Co., Ltd (formerly, TERA TECHNOS CO., Ltd.)	Other engineering R&D industries	100.00	—	100.00	—	—	—	Sejong
Consus PF Private Real Estate Fund No.2	Real estate development	—	66.67	66.67	—	—	—	—
POSCO GS Eco Materials Co., Ltd	Rechargeable battery	100.00	—	100.00	—	—	—	Seoul
POSCO Lithium Solution Co., Ltd.	Lithium manufacturing and sales	100.00	—	100.00	—	—	—	Gwangyang

Principal operations	Ownership (%)							Region
	December 31, 2022			December 31, 2021				
	POSCO HOLDINGS	Subsidiaries	Total	POSCO HOLDINGS	Subsidiaries	Total		
[Foreign]								
POSCO America Corporation	Research&Consulting	99.45	0.55	100.00	99.45	0.55	100.00	USA
POSCO AUSTRALIA PTY LTD	Raw material sales & mine development	100.00	—	100.00	100.00	—	100.00	Australia
POSCO Canada Ltd.	Coal sales	100.00	—	100.00	100.00	—	100.00	Canada
POSCAN ELKVIEW COAL LTD.	Coal sales	—	—	—	—	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	Vietnam
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	Thailand
POSCO-MKPC SDN BHD	Steel manufacturing and sales	—	70.00	70.00	70.00	—	70.00	Malaysia
Qingdao 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	Australia
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	Japan
POS-CD PTY LTD	Coal sales	—	100.00	100.00	—	100.00	100.00	Australia
POS-GC PTY LTD	Coal sales	—	100.00	100.00	—	100.00	100.00	Australia
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	39.60	60.40	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	Mexico
Zhangjiagang 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, 2022 and 2021

[Foreign]	Principal operations	Ownership (%)						Region
		December 31, 2022			December 31, 2021			
		POSCO HOLDINGS	Subsidiaries	Total	POSCO HOLDINGS	Subsidiaries	Total	
POSCO-VIETNAM Co., Ltd.	Steel manufacturing and sales	—	100.00	100.00	100.00	—	100.00	Vietnam
POSCO MEXICO S.A. DE C.V.	Automotive steel sheet manufacturing and sales	83.28	14.88	98.16	83.28	14.88	98.16	Mexico
POSCO-Poland Wroclaw Processing Center Sp. z o.o.	Steel manufacturing and sales	60.00	—	60.00	60.00	—	60.00	Poland
POS-NP PTY LTD	Coal sales	—	100.00	100.00	—	100.00	100.00	Australia
DAEWOO INTERNATIONAL SHANGHAI WAIGAOQIAO CO., LTD	Intermediary trade & bonded warehouse operation	—	100.00	100.00	—	100.00	100.00	China
PT. Bio Inti Agrindo	Forest resources development	—	85.00	85.00	—	85.00	85.00	Indonesia
POSCO ENGINEERING AND CONSTRUCTION AUSTRALIA (POSCO E&C AUSTRALIA) PTY LTD	Construction and engineering service	—	100.00	100.00	—	100.00	100.00	Australia
POSCO-TISCO (JILIN) PROCESSING CENTER Co., Ltd.	Steel manufacturing and sales	50.00	10.00	60.00	50.00	10.00	60.00	China
POSCO Thainox Public Company Limited	STS cold-rolled steel manufacturing and sales	—	74.56	74.56	74.56	—	74.56	Thailand
HUNCHUN POSCO HMM INTERNATIONAL-LOGISTICS CO., LTD.	Logistics	—	81.55	81.55	—	81.55	81.55	China
POSCO INTERNATIONAL VIETNAM CO., LTD	Trading business	—	100.00	100.00	—	100.00	100.00	Vietnam
POSCO(Chongqing) Automotive Processing Center Co., Ltd.	Steel manufacturing and sales	—	100.00	100.00	90.00	10.00	100.00	China
SUZHOU POSCO-CORE TECHNOLOGY CO., LTD.	Component manufacturing and sales	—	100.00	100.00	33.91	66.09	100.00	China
PT.Krakatau Posco Chemical Calcination	Quicklime manufacturing and sales	—	80.00	80.00	—	80.00	80.00	Indonesia
POSCO AFRICA (PROPRIETARY) LIMITED	Mine development	100.00	—	100.00	100.00	—	100.00	South Africa
POSCO ICT BRASIL	IT service and engineering	—	100.00	100.00	—	100.00	100.00	Brazil
POSCO Center Beijing	Real estate development, rental and management	—	100.00	100.00	—	100.00	100.00	China
POSCO-Malaysia SDN. BHD.	Steel manufacturing and sales	—	95.42	95.42	81.79	13.63	95.42	Malaysia
PT KRAKATAU BLUE WATER	Wastewater treatment facilities operation and maintenance	—	67.00	67.00	—	67.00	67.00	Indonesia
POSCO INTERNATIONAL MYANMAR CO.,LTD.	Trading business	—	100.00	100.00	—	100.00	100.00	Myanmar
POSCO-Italy Processing Center	Stainless steel sheet manufacturing and sales	88.89	11.11	100.00	88.89	11.11	100.00	Italy
Myanmar POSCO C&C Company, Limited.	Steel manufacturing and sales	—	70.00	70.00	—	70.00	70.00	Myanmar
POSCO ICT VIETNAM	IT service and electric control engineering	—	100.00	100.00	—	100.00	100.00	Vietnam
POSCO INTERNATIONAL GLOBAL DEVELOPMENT PTE.LTD.	Real estate development	—	75.00	75.00	—	75.00	75.00	Singapore
Myanmar POSCO Engineering & Construction Company, Limited.	Construction and engineering service	—	100.00	100.00	—	100.00	100.00	Myanmar
POS-Minerals Corporation	Mine development management and sales	—	100.00	100.00	—	100.00	100.00	USA
POSCO(Wuhu) Automotive Processing Center Co., Ltd.	Steel manufacturing and sales	68.57	31.43	100.00	68.57	31.43	100.00	China
POSCO Engineering and Construction India Private Limited	Civil engineering and construction	—	100.00	100.00	—	100.00	100.00	India
POSCO COATED STEEL (THAILAND) CO., LTD.	Vehicle steel manufacturing and sales	—	100.00	100.00	100.00	—	100.00	Thailand
POSCO INTERNATIONAL AMARA Co., Ltd.	Real estate development	—	85.00	85.00	—	85.00	85.00	Myanmar
POSMATE-CHINA CO., LTD	Business facility maintenance	—	100.00	100.00	—	100.00	100.00	China
POSCO-Mexico Villagran Wire-rod Processing Center	Steel manufacturing and sales	56.75	10.00	66.75	56.75	10.00	66.75	Mexico
POSCO ChengDu Processing Center	Steel manufacturing and sales	—	43.00	43.00	33.00	10.00	43.00	China
POSCO(Suzhou) Steel Processing Center CO., LTD.	Steel manufacturing and sales	—	100.00	100.00	30.00	70.00	100.00	China
POSCO E&C SMART S DE RL DE CV	Civil engineering and construction	—	100.00	100.00	—	100.00	100.00	Mexico
POSCO Philippine Manila Processing Center, Inc.	Steel manufacturing and sales	—	100.00	100.00	100.00	—	100.00	Philippines
POSCO E&C HOLDINGS CO., Ltd.	Holding company	—	100.00	100.00	—	100.00	100.00	Thailand
POSCO INTERNATIONAL POWER (PNGLA)E LTD.	Electricity production	—	100.00	100.00	—	100.00	100.00	Papua New Guinea
PT.Krakatau Posco Social Enterprise	Social enterprise	—	100.00	100.00	—	100.00	100.00	Indonesia
Ventanas Philippines Construction Inc	Construction	—	100.00	100.00	—	100.00	100.00	Philippines
SANPU TRADING Co., Ltd.	Raw material trading	—	70.04	70.04	—	70.04	70.04	China
Zhangjiagang BLZ Pohang International Trading	Steel Intermediate trade	—	100.00	100.00	—	100.00	100.00	China
POSCO RU Limited Liability Company	Trade and business development	100.00	—	100.00	100.00	—	100.00	Russia
GOLDEN LACE POSCO INTERNATIONAL CO., LTD.	Rice processing	—	60.00	60.00	—	60.00	60.00	Myanmar
POSCO ICT China CO.,LTD	IT service and DVR business	—	100.00	100.00	—	100.00	100.00	China
Pos-Sea Pte Ltd	Steel Intermediate trade	—	100.00	100.00	—	100.00	100.00	Singapore
POSCO Europe Steel Distribution Center	Logistics & Steel sales	—	70.00	70.00	50.00	20.00	70.00	Slovenia
POSCO ENGINEERING (THAILAND) CO., LTD.	Construction and engineering service	—	100.00	100.00	—	100.00	100.00	Thailand
POSCO VST CO., LTD.	Stainless steel sheet manufacturing and sales	95.65	—	95.65	95.65	—	95.65	Vietnam
POSCO INTERNATIONAL UKRAINE, LLC.	Grain sales	—	100.00	100.00	—	100.00	100.00	Ukraine
Zhangjiagang Pohang Refractories Co., Ltd.	Refractory materials sales & furnace maintenance	—	51.00	51.00	—	51.00	51.00	China
POSCO Maharashtra Steel Private Limited	Steel manufacturing and sales	100.00	—	100.00	100.00	—	100.00	India
POSCO INDIA PROCESSING CENTER PRIVATE LIMITED	Steel manufacturing and sales	93.34	1.98	95.32	93.34	1.98	95.32	India
POSCO TNPC Otomotiv Celik San. Ve Tic. A.S	Steel manufacturing and sales	—	100.00	100.00	100.00	—	100.00	Turkey
POSCO Vietnam Processing Center. Co., Ltd	Steel manufacturing and sales	94.05	5.95	100.00	94.05	5.95	100.00	Vietnam
POSCO(Liaoning) Automotive Processing Center Co., Ltd.	Steel manufacturing and sales	90.00	10.00	100.00	90.00	10.00	100.00	China
POSCO-Indonesia Jakarta Processing Center	Steel manufacturing and sales	70.51	21.69	92.20	70.51	21.69	92.20	Indonesia
PT.MRI	Mine development	65.00	—	65.00	65.00	—	65.00	Indonesia
POSCO TMC INDIA PRIVATE LIMITED	Steel manufacturing and sales	—	100.00	100.00	—	100.00	100.00	India
POSCO AMERICA ALABAMA PROCESSING CENTER CO., LTD.	Steel manufacturing and sales	—	97.80	97.80	—	97.80	97.80	USA
POSCO(Yantai) Automotive Processing Center Co., Ltd.	Steel manufacturing and sales	90.00	10.00	100.00	90.00	10.00	100.00	China
POSCO India Steel Distribution Center Private Ltd.	Steel logistics	—	100.00	100.00	—	100.00	100.00	India
POSCO YAMATO VINA STEEL JOINT STOCK COMPANY	Steel manufacturing and sales	—	51.00	51.00	51.00	—	51.00	Vietnam
PT.POSCO ICT INDONESIA	IT service and electric control engineering	—	66.99	66.99	—	66.99	66.99	Indonesia
POSCO NCR Coal Ltd.	Coal sales	—	100.00	100.00	—	100.00	100.00	Canada
POSCO WA PTY LTD	Iron ore sales & mine development	100.00	—	100.00	100.00	—	100.00	Australia
POSCO AUSTRALIA GP PTY LIMITED	Resource development	—	100.00	100.00	—	100.00	100.00	Australia



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

[Foreign]	Principal operations	Ownership (%)						Region
		December 31, 2022			December 31, 2021			
		POSCO HOLDINGS	Subsidiaries	Total	POSCO HOLDINGS	Subsidiaries	Total	
PT. KRAKATAU POSCO ENERGY	Electricity production construction and operation	—	90.00	90.00	—	90.00	90.00	Indonesia
POSCO INTERNATIONAL AMERICA CORP.	Trading business	—	100.00	100.00	—	100.00	100.00	USA
POSCO INTERNATIONAL Deutschland GMBH	Trading business	—	100.00	100.00	—	100.00	100.00	Germany
POSCO INTERNATIONAL JAPAN CORP.	Trading business	—	100.00	100.00	—	100.00	100.00	Japan
POSCO INTERNATIONAL SINGAPORE PTE. LTD.	Trading business	—	100.00	100.00	—	100.00	100.00	Singapore
POSCO INTERNATIONAL ITALIA S.R.L.	Trading business	—	100.00	100.00	—	100.00	100.00	Italy
POSCO INTERNATIONAL (CHINA) CO., LTD	Trading business	—	100.00	100.00	—	100.00	100.00	China
POSCO INTERNATIONAL TEXTILE LLC.	Textile manufacturing	—	100.00	100.00	—	100.00	100.00	Uzbekistan
POSCO INTERNATIONAL AUSTRALIA HOLDINGS PTY. LTD.	Resource development	—	100.00	100.00	—	100.00	100.00	Australia
POSCO MAURITIUS LIMITED	Coal development and sales	—	100.00	100.00	—	100.00	100.00	Mauritius
PT. KRAKATAU POSCO	Steel manufacturing and sales	50.00	—	50.00	70.00	—	70.00	Indonesia
POSCO INTERNATIONAL MEXICO, S.A de C.V..	Trading business	—	100.00	100.00	—	100.00	100.00	Mexico
POSCO INTERNATIONAL MALAYSIA SDN BHD	Trading business	—	100.00	100.00	—	100.00	100.00	Malaysia
PT.POSCO INDONESIA INTI	Consulting	100.00	—	100.00	100.00	—	100.00	Indonesia
POSCO INTERNATIONAL SHANGHAI CO., LTD.	Trading business	—	100.00	100.00	—	100.00	100.00	China
PGSF, L.P.	Investment in bio tech Industry	—	100.00	100.00	—	100.00	100.00	USA
POSCO INTERNATIONAL INDIA PVT., LTD	Trading business	—	100.00	100.00	—	100.00	100.00	India
POSCO(Dalian) IT Center Development Co., Ltd.	Real estate development and investment	—	100.00	100.00	—	100.00	100.00	China
PT. POSCO E&C INDONESIA	Civil engineering and construction	—	100.00	100.00	—	100.00	100.00	Indonesia
HUME COAL PTY LTD	Raw material manufacturing	—	100.00	100.00	—	100.00	100.00	Australia
Brazil Sao Paulo Steel Processing Center	Steel manufacturing and sales	—	76.00	76.00	—	76.00	76.00	Brazil
POSCO ENGINEERING & CONSTRUCTION DO BRAZIL LTDA.	Construction	—	100.00	100.00	—	100.00	100.00	Brazil
POSCO ASSAN TST STEEL INDUSTRY	Steel manufacturing and sales	60.00	10.00	70.00	60.00	10.00	70.00	Turkey
HONG KONG POSCO E&C (CHINA) INVESTMENT Co., Ltd.	Real estate development and investment	—	100.00	100.00	—	100.00	100.00	Hongkong
JB CLARK HILLS	Apartment construction	—	70.00	70.00	—	70.00	70.00	Philippines
POS-LT Pty Ltd	Lithium mining investment	—	100.00	100.00	—	100.00	100.00	Australia
ZHEJIANG POSCO-HUAYOU ESM CO., LTD	Anode material manufacturing	18.70	41.30	60.00	60.00	—	60.00	China
POSCO Argentina S.A.U.	Mineral exploration/manufacturing/sales	100.00	—	100.00	100.00	—	100.00	Argentina
GRAIN TERMINAL HOLDING PTE. LTD.	Trading business	—	75.00	75.00	—	75.00	75.00	Singapore
Mykolaiv Milling Works PJSC.	Grain trading	—	100.00	100.00	—	100.00	100.00	Ukraine
Yuzhnaya Stevedoring Company Limited LLC.	Cargo handling	—	100.00	100.00	—	100.00	100.00	Ukraine
Posco International (Thailand) Co., Ltd.	Trade	—	100.00	100.00	—	100.00	100.00	Thailand
PT POSCO INTERNATIONAL INDONESIA	Trade	—	100.00	100.00	—	100.00	100.00	Indonesia
PEC POWERCON SDN. BHD.	Construction and engineering service	—	100.00	100.00	—	100.00	100.00	Malaysia
POSCO CHEMICAL Free Zone Enterprise	Refractory Construction	—	—	—	—	100.00	100.00	Nigeria
Poland Legnica Sourcing Center Sp. z o.o	Non-ferrous metal Smetling	100.00	—	100.00	100.00	—	100.00	Poland
POSCO INTERNATIONAL E&P MALAYSIA SDN. BHD.	Extraction of Crude petroleum and Natural gas	—	100.00	100.00	—	100.00	100.00	Malaysia
AGPA PTE. LTD.	Holding company	—	100.00	100.00	—	100.00	100.00	Singapore
Senex Holdings PTY LTD(*1)	Extraction of Crude petroleum and Natural gas	—	50.10	50.10	—	—	—	Australia
Posco International Mexico e-Mobility S.A DE C.V.	Electric Vehicle Parts Manufacturing	—	100.00	100.00	—	—	—	Mexico
POSCO CHEMICAL CANADA INC.	Holding company	—	100.00	100.00	—	—	—	Canada
ULTIUM CAM GP INC.	Holding company	—	85.00	85.00	—	—	—	Canada
ULTIUM CAM LIMITED PARTNERSHIP	Anode material manufacturing	—	85.00	85.00	—	—	—	Canada
POSCO(Wuhan) Automotive Processing Center Co., Ltd	Steel manufacturing and sales	68.57	31.43	100.00	—	—	—	China
POSCO BRAZIL LTDA	Office Administration, Management Consulting	—	100.00	100.00	—	—	—	Brazil

(*1) Senex Holdings PTY LTD includes 19 subsidiaries including Senex Energy Limited.

The controlling company's interests in the subsidiaries decreased by ₩7,827 million (POSCO CHEMICAL CO., LTD and others) and increased ₩83,546 million (POSCO CHEMICAL CO., LTD and others) in 2022 and 2021, 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 ₩122,838 million and ₩133,125 million from its subsidiaries in aggregate in 2022 and 2021, respectively.

As of December 31, 2022, 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.



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(c) Summarized financial information of principal subsidiaries as of and for the years ended December 31, 2022 and 2021 are as follows:

1) 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 ENGINEERING & CONSTRUCTION CO., LTD.	7,065,745	3,814,041	3,251,704	8,124,502	130,657
POSCO STEELEON Co., Ltd. (formerly, POSCO COATED & COLOR STEEL Co., Ltd.)	531,890	201,053	330,837	1,181,625	17,480
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 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	190,704
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)

Company	Assets	Liabilities	Equity	Sales	Net income (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	76,730	53,806	266,938	657
POSCO (Zhangjiagang) Stainless Steel Co., Ltd.	1,164,609	518,106	646,503	4,208,952	(77,395)
POSCO (Thailand) Company Limited	166,117	62,382	103,735	504,806	3,662
Qingdao Pohang Stainless Steel Co., Ltd.	132,871	13,999	118,872	380,792	(13,525)
POSCO (Suzhou) Automotive Processing Center Co., Ltd.	455,662	288,070	167,592	959,115	514
POSCO-China Holding Corp.	1,094,494	600,058	494,436	38,601	(34,522)
POSCO JAPAN Co., Ltd.	223,947	27,259	196,688	269,717	24,344
POSCO-India Pune Processing Center. Pvt. Ltd.	161,519	116,774	44,745	521,504	7,354
POSCO Japan PC CO., LTD	386,553	311,011	75,542	635,651	8,868
POSCO-CFPC Co., Ltd.	328,843	263,965	64,878	1,124,718	14
POSCO MPPC S.A. de C.V.	546,916	442,970	103,946	881,066	8,365
POSCO-VIETNAM Co., Ltd.	321,430	305,758	15,672	885,599	(39,726)
POSCO MEXICO S.A. DE C.V.	726,081	496,146	229,935	785,821	(8,832)
POSCO Thainox Public Company Limited	419,425	83,801	335,624	900,653	7,411
POSCO Center Beijing	440,329	263,555	176,774	44,183	8,668
POSCO COATED STEEL (THAILAND) CO., LTD.	319,379	235,672	83,707	458,059	(1,305)
POSCO INTERNATIONAL AMARA Co., Ltd.	308,643	379,974	(71,331)	34,000	(12,626)
POSCO VST CO., LTD.	319,010	229,180	89,830	843,998	17,071
POSCO Maharashtra Steel Private Limited	1,353,120	888,574	464,546	1,901,490	(41,471)
POSCO INDIA PROCESSING CENTER PRIVATE LIMITED	334,723	255,895	78,828	916,943	14,296
POSCO Vietnam Processing Center. Co., Ltd	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 HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(in millions of Won)

Company	Assets	Liabilities	Equity	Sales	Net income (loss)
[Foreign]					
POSCO ASSAN TST STEEL INDUSTRY	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.

2) December 31, 2021

(in millions of Won)

Company	Assets	Liabilities	Equity	Sales	Net income (loss)
[Domestic]					
POSCO ENGINEERING & CONSTRUCTION., CO., LTD.	6,634,620	3,521,099	3,113,521	7,018,744	249,472
POSCO STEELEON Co., Ltd. (formerly, POSCO COATED & COLOR STEEL Co., Ltd.)	566,959	251,038	315,921	1,328,999	95,790
POSCO ICT	628,144	274,578	353,566	839,245	(15,534)
POSCO A&C	86,952	55,099	31,853	179,006	2,423
eNtoB Corporation	149,177	94,500	54,677	862,069	7,465
POSCO CHEMICAL CO., LTD.	3,761,333	1,430,012	2,331,321	1,939,524	119,124
POSCO M-TECH	156,334	51,769	104,565	323,878	13,064
POSCO ENERGY CO., LTD.	3,934,447	2,475,850	1,458,597	1,895,577	172,496
POSCO INTERNATIONAL	9,144,515	6,001,763	3,142,752	30,527,683	201,231
POSCO MOBILITY SOLUTION	845,109	249,843	595,266	1,179,596	31,838
POSCO-Pilbara LITHIUM SOLUTION Co., Ltd.	152,859	4,123	148,736	(122)	(542)

(in millions of Won)

Company	Assets	Liabilities	Equity	Sales	Net income (loss)
[Foreign]					
POSCO America Corporation	107,281	6,970	100,311	18,421	9,813
POSCO AUSTRALIA PTY LTD(*1)	860,920	97,200	763,720	140,423	35,287
POSCO Asia Co., Ltd.	1,144,213	922,686	221,527	124,569	3,898
POSCO-CTPC Co., Ltd.	142,857	88,068	54,789	272,549	1,836
POSCO (Zhangjiagang) Stainless Steel Co., Ltd.	1,145,166	406,252	738,914	3,747,283	124,368
POSCO (Thailand) Company Limited	186,378	89,264	97,114	487,608	17,202
Qingdao Pohang Stainless Steel Co., Ltd.	189,037	53,859	135,178	418,547	12,427
POSCO (Suzhou) Automotive Processing Center Co., Ltd.	458,874	287,330	171,544	841,973	8,509
POSCO-China Holding Corp.	783,937	246,649	537,288	50,833	(468)
POSCO JAPAN Co., Ltd.	779,133	592,434	186,699	1,630,156	14,596
POSCO-India Pune Processing Center. Pvt. Ltd.	174,293	134,868	39,425	403,041	11,077
POSCO Japan PC CO.,LTD	371,800	299,430	72,370	553,263	10,701
POSCO-CFPC Co., Ltd.	366,616	300,028	66,588	1,105,299	6,765
POSCO MPPC S.A. de C.V.	421,707	332,152	89,555	596,680	6,296
POSCO-VIETNAM Co., Ltd.	435,512	384,377	51,135	1,198,970	42,190
POSCO MEXICO S.A. DE C.V.	668,843	445,641	223,202	630,312	3,405
POSCO Thainox Public Company Limited	490,646	142,881	347,765	715,151	31,584
POSCO Center Beijing	461,076	288,032	173,044	39,401	12,464
POSCO COATED STEEL (THAILAND) CO., LTD.	351,464	268,985	82,479	413,326	3,644
POSCO INTERNATIONAL AMARA Co., Ltd.	298,524	353,658	(55,134)	27,408	(26,954)
POSCO VST CO., LTD.	327,059	258,702	68,357	640,725	27,909
POSCO Maharashtra Steel Private Limited	1,486,478	962,899	523,579	1,679,472	149,007
POSCO INDIA PROCESSING CENTER PRIVATE LIMITED	286,619	218,463	68,156	674,205	20,581
POSCO Vietnam Processing Center Co., Ltd	282,202	201,443	80,759	609,033	23,557



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(in millions of Won)

Company [Foreign]	Assets	Liabilities	Equity	Sales	Net income (loss)
POSCO (Liaoning) Automotive Processing Center Co., Ltd.	112,969	66,962	46,007	267,115	3,125
POSCO YAMATO VINA STEEL JOINT STOCK COMPANY	524,012	249,863	274,149	473,386	37,741
PT. KRAKATAU POSCO ENERGY	264,092	108,594	155,498	32,428	16,207
POSCO INTERNATIONAL AMERICA CORP.	597,758	509,778	87,980	2,304,487	10,531
POSCO INTERNATIONAL Deutschland GMBH	381,367	374,284	7,083	645,792	2,952
POSCO INTERNATIONAL JAPAN CORP.	228,615	218,718	9,897	892,322	5,821
POSCO INTERNATIONAL SINGAPORE PTE. LTD.	416,495	407,243	9,252	4,285,372	3,094
POSCO INTERNATIONAL ITALIA S.R.L.	247,485	236,625	10,860	678,388	1,494
POSCO INTERNATIONAL (CHINA) CO., LTD	63,411	38,682	24,729	352,561	6,703
PT. KRAKATAU POSCO	3,158,351	2,933,782	224,569	2,694,601	476,391
POSCO INTERNATIONAL MALAYSIA SDN BHD	24,215	21,479	2,736	346,271	81
POSCO ASSAN TST STEEL INDUSTRY	602,089	567,616	34,473	707,384	93,802
POSCO AMERICA ALABAMA PROCESSING CENTER CO., LTD.	145,715	125,091	20,624	229,046	(766)
POSCO Argentina S.A.U.	376,010	2,079	373,931	109	(9,252)
POSCO-MKPC SDN BHD	149,755	95,831	53,924	165,893	8,798
POSCO INTERNATIONAL VIETNAM CO.,LTD.	32,462	25,938	6,524	509,873	3,316
POSCO INTERNATIONAL SHANGHAI CO.,LTD.	59,700	49,128	10,572	152,676	1,811

(*1) Summarized financial information of POSCO AUSTRALIA PTY LTD, a subsidiary of POSCO HOLDINGS INC., is 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, 2022 and 2021 are as follows:

1) December 31, 2022

(in millions of Won)	POSCO INTERNATIONAL Corporation	PT. KRAKATAU POSCO	POSCO CHEMICAL CO., LTD.	POSCO ENGINEERING & CONSTRUCTION CO., LTD.	POSCO ICT 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) in cash and cash equivalents	193,057	(132,217)	41,936	245,940	155	45,502	394,373



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

2) December 31, 2021

<i>(in millions of Won)</i>	POSCO INTERNATIONAL Corporation	PT. KRAKATAU POSCO	POSCO CHEMICAL CO., LTD	POSCO ENGINEERING & CONSTRUCTION CO., LTD.	POSCO ICT CO., LTD.	Others	Total
Current assets	5,952,771	968,129	2,071,307	4,423,461	423,422	9,496,214	23,335,304
Non-current assets	3,322,590	2,388,139	1,708,558	1,900,316	185,508	4,772,409	14,277,520
Current liabilities	(4,537,785)	(1,155,003)	(604,333)	(2,913,223)	(263,794)	(7,918,852)	(17,392,990)
Non-current liabilities	(1,666,455)	(1,778,668)	(835,222)	(576,143)	(10,051)	(1,706,779)	(6,573,318)
Equity	3,071,121	422,597	2,340,310	2,834,411	335,085	4,642,992	13,646,516
Non-controlling interests	1,138,360	126,779	942,660	1,337,867	116,000	1,542,960	5,204,626
Sales	30,545,740	2,694,601	1,939,524	7,017,077	832,127	28,538,963	71,568,032
Profit (loss) for the period	223,845	500,801	128,960	286,729	(18,802)	690,197	1,811,730
Profit (loss) attributable to non-controlling interests	82,972	150,240	51,944	135,339	(6,509)	189,590	603,576
Cash flows from operating activities	(235,359)	151,393	36,745	113,021	(18,494)	130,828	178,134
Cash flows from investing activities	(91,619)	(4,022)	(639,965)	(243,463)	(17,309)	(86,585)	(1,082,963)
Cash flows from financing activities (before dividends to non-controlling interest)	279,529	(81,187)	595,521	36,359	(226)	9,604	839,600
Dividends to non-controlling interest	(32,004)	—	(7,370)	(9,867)	(2,628)	(7,671)	(59,540)
Effect of exchange rate fluctuation on cash held	1,937	3,916	6	3,048	3	6,216	15,126
Net increase (decrease) in cash and cash equivalents	(77,516)	70,100	(15,063)	(100,902)	(38,654)	52,392	(109,643)



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POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(e) Details of associates and joint ventures

1) Associates

Details of associates as of December 31, 2022 and 2021 are as follows:

Investee	Category of business	Ownership (%)		Region
		2022	2021	
[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	Gwangyang
KONES, Corp.	Technical service	26.72	26.72	Gyeongju
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	Real estate development and rental	27.40	27.40	Mokpo
Gunggi Green Energy(*1)	Electricity generation	19.00	19.00	Hwaseong
Pohang Special Welding Co., Ltd.	Welding material and tools manufacturing and sales	50.00	50.00	Pohang
EQP POSCO Global NOI Natural Resources Private Equity Fund	Investment in new technologies	27.23	42.82	Seoul
KC Chemicals CORP.(*1)	Machinery manufacturing	18.76	19.00	Hwaseong
POSTECH Social Enterprise Fund(*1)	Investment in new technologies	9.17	9.17	Seoul
QSONE Co., Ltd.	Real estate rental and facility management	50.00	50.00	Seoul
Chun-cheon Energy Co., Ltd	Electricity generation	49.10	49.10	Chuncheon
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 Steel(*1)	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	20.00	20.00	Pohang
Hyundai Invest Guggenheim CLO Qualified Private Special Asset Trust No.2	Investment in new technologies	38.57	38.47	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 I(*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	15.86	15.87	Seoul
POSCO 4th Industrial Revolution Fund(*1)	Investment in new technologies	19.05	20.00	Seoul
Pureun Tongyeong Enviro Co., Ltd.	Sewerage treatment	20.40	20.40	Tongyeong
Pure Gimpo Co., Ltd.	Construction	28.79	28.79	Gimpo
Posgreen Co., Ltd.(*1)	Lime and plaster manufacturing	19.00	19.00	Gwangyang
Clean Iksan Co., Ltd.	Construction	23.50	23.50	Iksan
Innovalloy Co., Ltd.	Real estate development	28.77	28.77	Yongin
BLUE OCEAN Private Equity Fund	Private equity financial	27.52	27.52	Seoul
Western Inland highway CO., LTD.(*4)	Construction	—	20.39	Incheon
Pocheon-Hwado Highway Corp.	Investment in Expressway	27.64	23.27	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	Samcheok
INKOTECH, 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(*1)	Private equity trust	19.91	19.91	Seoul
PCC-Conar No.1 Fund(*1)	Investment in new technologies business	15.34	14.68	Pohang
HYOCHUN Co., Ltd.(*1)	Screen door operation and other	18.00	18.00	Seoul
RPSD Project Co., Ltd.(*4)	Real estate development	—	29.00	Incheon
PCC EV Fund(*3)	Investment in new technologies business	—	18.18	Pohang
IBKC-PCC 1st Fund(*1)	Investment in new technologies business	18.18	18.18	Pohang
2019 PCC Materials and Parts Fund(*1)	Investment in new technologies business	8.70	8.70	Pohang
PCC-Woori LP secondary Fund(*1)	Investment in new technologies business	18.85	18.85	Pohang
KPGE Inc.(*3)	Wholesales and retail, generator material, trade	—	25.00	Busan
CURO CO.,LTD.(*1)	Manufacturing, construction	0.53	0.54	Ulsan
Link City PFV Inc.	Construction, housing construction and sales	44.00	44.00	Uijeongbu
BNH-POSCO Bio Healthcare Fund(*1)	Investment in new technologies business	18.14	18.14	Pohang
PCC-BM Project Fund(*1)	Investment in new technologies business	8.77	8.77	Pohang



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Investee	Category of business	Ownership (%)		Region
		2022	2021	
[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(*1)	Investment in new technologies business	19.96	19.96	Pohang
C&-PCC I Fund(*1)	Investment in new technologies business	0.68	0.68	Pohang
2020 POSCO-MOORIM Bio New Technology Fund(*1)	Investment in new technologies business	5.00	5.00	Pohang
PCC-KAI Secondary I Fund(*1)	Investment in new technologies business	19.12	19.12	Seoul
Human Eco-Land Co., Ltd.(*4)	Sewage facilities management	—	27.95	Ansan
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	Real estate development	50.00	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-Xinova PRE-IPO Fund(*1,2)	Investment in new technologies business	9.09	—	Pohang
PCC-Bailey Project Fund(*1,2)	Investment in new technologies business	7.27	—	Pohang
Erae Ams Co., Ltd.(*1,2)	Automotive parts manufacturing	16.66	—	Daegu
CR Inotech Co., Ltd.(*1,2)	Manufacturing	19.00	—	Gwangyang
Posco JK Solid Solution Co., ltd.(*2)	Material manufacturing for rechargeable battery	40.00	—	Yangsan
[Foreign]				
VSC POSCO Steel Corporation(*3)	Steel processing and sales	—	50.00	Vietnam
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				New Caledonia
PT. Wampu Electric Power	Raw material manufacturing and sales	49.00	49.00	Caledonia
POSK(Pinghu) Steel Processing Center Co., Ltd.	Construction and civil engineering	20.00	20.00	Indonesia
PT.INDONESIA POS CHEMTECH CHOSUN Ref	Steel processing and sales	20.00	20.00	China
NS-Thainox Auto Co., Ltd.	Refractory manufacturing and sales	30.19	30.19	Indonesia
Zhongyue POSCO (Qinhuangdao) Tinplate Industrial Co., Ltd(*4)	Steel manufacturing and sales	49.00	49.00	Thailand
PT. Tanggamus Electric Power(*1)	Tinplate manufacturing and sales	—	34.00	China
LLP POSUK Titanium	Construction and civil engineering	17.50	17.50	Indonesia
IMFA ALLOYS FINLEASE LTD	Titanium manufacturing and sales	35.30	35.30	Kazakhstan
KRAKATAU POS-CHEM DONG-SUH CHEMICAL(*1)	Raw material manufacturing and sales	24.00	24.00	India
9404-5515 Quebec Inc.	Chemical by-product manufacturing and sales	19.00	19.00	Indonesia
Hampanan Mulya	Investments management	25.85	10.40	Canada
POS-SEAHSTEELWIRE(TIANJIN) CO., Ltd.	Resource development	45.00	45.00	Indonesia
Eureka Moly LLC	Steel manufacturing and sales	25.00	25.00	China
KIRIN VIETNAM CO., LTD(*1)	Raw material manufacturing and sales	20.00	20.00	USA
POSCO SeAH Steel Wire(Nantong) Co., Ltd.	Panel manufacturing	19.00	19.00	Vietnam
POS-SeAH Steel Wire (Thailand) Co., Ltd.	Steel processing and sales	25.00	25.00	China
Jupiter Mines Limited(*1)	Steel manufacturing and sales	25.00	25.00	Thailand
SAMHWAN VINA CO., LTD(*1)	Resource development	6.89	6.89	Australia
Saudi-Korean Company for Maintenance Properties Management LLC(*1)	Steel manufacturing and sales	19.00	19.00	Vietnam
NCR LLC	Building management	19.00	19.00	Saudi Arabia
AMCI (WA) PTY LTD	Coal sales	22.05	22.10	Canada
SHANGHAI LANSHENG DAEWOO CORP.	Iron ore sales & mine development	49.00	49.00	Australia
SHANGHAI WAIGAOQIAO FREE TRADE ZONE LANSHENG DAEWOO IN'L TRADING CO., LTD.	Trading	49.00	49.00	China
General Medicines Company Ltd.	Trading	49.00	49.00	China
KOREA LNG LTD.	Medicine manufacturing and sales	33.00	33.00	Sudan
AES-VCM Mong Duong Power Company Limited	Gas production and sales	20.00	20.00	England
South-East Asia Gas Pipeline Company Ltd.	Electricity generation	30.00	30.00	Vietnam
GLOBAL KOMSCO Daewoo LLC	Pipeline construction and management	25.04	25.04	Myanmar
POSCO-Poggenamp Electrical Steel Pvt. Ltd.	Cotton celluloid manufacturing and sales	35.00	35.00	Uzbekistan
Qingdao Pohang DGENX Stainless SteelPipe Co., Ltd	Steel processing and sales	26.00	26.00	India
SHINPOONG DAEWOO PHARMA VIETNAM CO., LTD(*1)	Exhaust meter manufacturing	40.00	40.00	China
ZHEJIANG HUAYOU-POSCO ESM CO., LTD	Medicine production	3.42	3.42	Vietnam
MONG DUONG FINANCE HOLDINGS B.V.	Anode material Production	40.00	40.00	China
FQM Australia Holdings Pty Ltd	Financial Holdings	30.00	30.00	Netherlands
Qingdao ZhongShou New Energy Technology Co., Ltd(*1,2)	Non-ferrous metal Mining	30.00	30	Australia
Black Rock Mining LTD(*1)	Artificial Graphite manufacturing	13.01	19	China
Inner Mongolia Sinuo New Material Technology Co., Ltd(*1,2)	Mining	12.90	15	Australia
ZHANGJIAGANG XIAO-SHA COIL SERVICE CENTER CO., LTD(*1,2)	Artificial Graphite manufacturing	12.85	—	China
TMK Gulf International Pipe Industry L.L.C.(*1,2)	Steel processing and sales	17.50	—	China
	Manufacturing	6.77	—	Oman



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- (*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, 2022, the entities were newly included in associates due to acquisition or establishment.
- (*3) During the year ended December 31, 2022, the entities were excluded from associates due to liquidation.
- (*4) During the year ended December 31, 2022, the entities were excluded from associates due to sale of interest, etc.

2) Joint ventures

Details of joint ventures as of December 31, 2022 and 2021 are as follows:

Investee	Category of business	Ownership (%)		Region
		2022	2021	
[Domestic]				
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
PoscoPlus 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., Ltd.(*2)	Service	50.00	—	Seoul
[Foreign]				
KOBRASCO	Steel materials manufacturing and sales	50.00	50.00	Brazil
PT. POSMI Steel Indonesia(*1)	Steel processing and sales	—	36.69	Indonesia
CSP - Companhia Siderurgica do Pecem	Steel manufacturing and sales	20.00	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
Kwanika Copper Corporation(*1)	Energy & resource development	—	34.04	Canada
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

- (*1) During the year ended December 31, 2022, the entities were excluded from joint ventures due to sales of interest, etc.
- (*2) During the year ended December 31, 2022, the joint venture was newly established.



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(f) New subsidiaries

Consolidated subsidiaries acquired or newly established during the year ended December 31, 2022 are as follows:

<u>Company</u>	<u>Date of addition</u>	<u>Ownership (%)</u>	<u>Reason</u>
Senex Holdings PTY LTD and subsidiaries (formerly, K-A Energy 1 PTY LTD)(*1,2) POSCO	January 2022	50.10	New establishment
	March 2022	100.00	Spin-off from the controlling company
Posco International Mexico e-Mobility S.A DE C.V. eSteel4U	March 2022	100.00	New establishment
POSCO social investment fund	April 2022	61.12	New establishment
POSCO CHEMICAL CANADA INC.	April 2022	70.00	New establishment
POSCO Silicon Solution Co., Ltd (formerly, TERA TECHNOS CO., Ltd.)	June 2022	100.00	New establishment
ULTIUM CAM GP INC.	July 2022	100.00	New addition
ULTIUM CAM LIMITED PARTNERSHIP	September 2022	85.00	New establishment
POSCO(Wuhan) Automotive Processing Center Co., Ltd	September 2022	85.00	New establishment
	September 2022	100.00	Spin-off from POSCO(Wuhu) Automotive Processing Center Co., Ltd.
Consus Pf Private Real Estate Fund No.2	September 2022	100.00	New establishment
POSCO BRAZIL LTDA	September 2022	66.70	New establishment
POSCO GS Eco Materials Co., Ltd	October 2022	100.00	New establishment
POSCO Lithium Solution Co., Ltd.	October 2022	100.00	New establishment
	December 2022	100.00	New establishment

(*1) During the year ended December 31, 2022, K-A Energy 1 PTY LTD changed its name to Senex Holdings PTY LTD.

(*2) The subsidiary acquired 100% shares of Senex Energy Limited in April 2022.

(g) Loss of control

Subsidiaries for which the Company has lost control during the year ended December 31, 2022 are as follows:

<u>Company</u>	<u>Date of exclusion</u>	<u>Reason</u>
POSCAN ELKVIEW COAL LTD.	August 2022	Merged into POSCO Canada Ltd.
2015 POSCO New technology II Fund	December 2022	Liquidation
POSCO CHEMICAL Free Zone Enterprise	December 2022	Liquidation

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 27, 2023 and are expected to be submitted for approval at the shareholders’ meeting to be held on March 17, 2023.



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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

During the year ended December 31, 2022, the Company recognized ₩207,072 million and ₩95,278 million of impairment loss for property, plant and equipment and inventories in its-production facility, including Pohang works due to the flooding of the Naengcheon stream in Pohang in September 2022. as further explained in Note 9 and 14.

During the year ended December 31, 2022, the Company assessed the extent of flood damage to its significant property, plant and equipment, as well as its inventories, and estimated the resulting impairment loss based on available information as of December 31, 2022. While the extent of damage to the insured property, plant and equipment is still being evaluated, the Company has received insurance payments of ₩234,000 million as of the year end. However, the final amount and timing of insurance payments have not yet been determined.



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(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 – contracts for revenue recognized over time
- 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.



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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, 2022 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, 2021.

(a) K-IFRS No. 1016 “Property, plant and equipment”

The amendments prohibit deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while the Company is preparing the asset for its intended use. The cumulative effect of the initial adoption of the amendments is recognized by adjusting the beginning balance of retained earnings on the start date of earliest period presented for comparison. The amendments did not have any impact on the beginning balances of the consolidated financial statements.

(b) K-IFRS No. 1103 “Business Combinations”

The definition of assets and liabilities to be recognized is amended to refer to the revised conceptual framework for financial reporting. However, the amendments add an exception which allows K-IFRS No. 1037 “Provisions, contingent liabilities and contingent assets” and K-IFRS No. 2121 “Levies” to be applied to the liabilities and contingent liabilities included in the scope of these standards. The amendments also clarify that contingent assets should not be recognized at the acquisition date. The amendments are applied to business combination occurred on or after January 1, 2022.

(c) K-IFRS No. 1037 “Provisions, Contingent Liabilities and Contingent Assets” — Onerous Contracts: Cost of Fulfilling a Contract

The amendments clarify that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts when assessing whether the contract is onerous. The cumulative effect of the first application of the amendment is recognized by adjusting the beginning balance of retained earnings on the date of initial application. The amendments did not have any impact on the beginning balances of the consolidated financial statements.



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3. Summary of Significant Accounting Policies

The significant accounting policies 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 using the acquisition method when the acquired set of activities and assets meets the definition of a business and control is transferred to the Company. In determining whether a particular set of activities and assets is a business, the Company assesses whether the set of assets and activities acquired includes, at a minimum, an input and substantive process and whether the acquired set has the ability to produce outputs.

The Company has an option to apply a 'concentration test' that permits a simplified assessment of whether an acquired set of activities and assets is not a business. The optional concentration test is met if substantially all of the fair value of the gross assets acquired is concentrated in a single identifiable asset or group of similar identifiable assets.

The consideration transferred in the acquisition is generally measured at fair value, as are the identifiable net assets acquired. Any goodwill that arises is tested annually for impairment. Any gain on bargain purchase is recognized in profit or loss immediately. Transaction costs are expensed as incurred, except if related to the issue of debt or equity securities. The consideration transferred does not include amounts related to the settlement of pre-existing relationships. Such amounts are generally recognized in profit or loss.

Any contingent consideration payable is measured at fair value at the acquisition date. If the contingent consideration is classified as equity, then it is not remeasured and settlement is accounted for within equity. Otherwise, subsequent changes in the fair value of the contingent consideration are recognized in profit or loss.

If share-based payment awards (replacement awards) are required to be exchanged for awards held by the acquiree's employees (acquiree's awards), then all or a portion of the amount of the acquirer's replacement awards is included in measuring the consideration transferred in the business combination. This determination is based on the market-based measure of the replacement awards compared with the market-based measure of the acquiree's awards and the extent to which the replacement awards relate to pre-combination service.

(b) Non-controlling interests

Non-controlling interests are measured at their proportionate share of the acquiree's identifiable net assets at the acquisition date. Changes in the Company's interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.



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(c) Subsidiaries

Subsidiaries are entities controlled by the Company. The Company controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. 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) Loss of control

When the Company loses control over a subsidiary, it derecognizes the assets and liabilities of the subsidiary, and any related non-controlling interests and other components of equity. Any resulting gain or loss is recognized in profit or loss. Any interest retained in the former subsidiary is measured at fair value when control is lost.

(e) Interests in equity-accounted investees

The Company's interests in equity-control investees comprise interests in associates and joint ventures. Associates are those entities in which the Company has significant influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Company has joint control, whereby the Company has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

Interests in associates and joint ventures are accounted for using the equity method. They are recognized initially at cost, which includes transaction costs. Subsequent to initial recognition, the consolidated financial statements include the Company's share of the profit or loss and other comprehensive income of equity-accounted investees, until the date on which significant influence or joint control ceases.

(f) 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.

Foreign currency transactions and translation

(a) Foreign currency transactions

Foreign currency transactions are initially recorded using the spot exchange rate between the functional currency and the foreign currency at the date of the transaction. At the end of each reporting period, foreign currency monetary items are translated using the closing rate. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the original transaction. Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rate at the date fair value was initially determined.



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Exchange differences arising on the settlement of monetary items or on translating monetary items at rates different from those at which they were translated on initial recognition during the period or in previous financial statements are recognized in profit or loss in the period in which they arise. When gains or losses on non-monetary items are recognized in other comprehensive income, exchange components of those gains or losses are recognized in other comprehensive income. Conversely, when gains or losses on non-monetary items are recognized in profit or loss, exchange components of those gains or losses are recognized in profit or loss.

(b) Foreign operations

If the presentation currency of the Company is different from a foreign operation's functional currency, the financial statements of the foreign operation are translated into the presentation currency using the following methods:

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.

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of that foreign operation are treated as assets and liabilities of the foreign operation. Thus, they are expressed in the functional currency of the foreign operation and translated at the closing rate.

When a foreign operation is disposed of, the relevant amount in the translation is transferred to profit or loss as part of the profit or loss on disposal. On the partial disposal of a subsidiary that includes a foreign operation, the relevant proportion of such cumulative amount is reattributed to non-controlling interest. In any other partial disposal of a foreign operation, the relevant proportion is reclassified to profit or loss.

Foreign exchange gains or losses arising from a monetary item receivable from or payable to a foreign operation, the settlement of which is neither planned nor likely to occur in the foreseeable future and which in substance is considered to form part of the net investment in the foreign operation, are recognized in other comprehensive income in the translation reserve.

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.



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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.

On initial recognition, a financial asset is classified as measured at amortized cost, debt instruments measured at fair value through other comprehensive income, equity instruments measured at fair value through other comprehensive income or financial assets measured at fair value through profit or loss.

Financial assets are not reclassified subsequent to their initial recognition unless the Company changes its business model for managing financial assets, in which case all affected financial assets are reclassified on the first day of the reporting period following the change in the business model.

(a) Financial assets measured at amortized cost

A financial asset is measured at amortized cost if it meets both of the following conditions and is not designated as at fair value through profit or loss.

- it is held within a business model whose objective is to hold assets to collect contractual cash flows, and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

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) Debt instruments measured at fair value through other comprehensive income

A debt instrument is measured at fair value through other comprehensive income if it meets both of the following conditions and is not designated as at fair value through profit or loss.

- it is held within a business model whose objective is achieved by both collection contractual cash flows and selling financial assets, and
- its contractual terms give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.



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Debt instruments measured at fair value through other comprehensive income are subsequently measured at fair value. Interest income which is calculated using the effective interest method, gains and losses from foreign currency translation and impairment losses are recognized in profit or loss and other net profit or loss is recognized in other comprehensive income. At the time of elimination, other accumulated comprehensive income is reclassified to profit or loss.

(c) 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.

(d) 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.

(f) Offsetting a financial asset and a financial liability

Financial assets and financial liabilities are offset and the net amount is presented in the consolidated statement of financial position only when the Company currently has a legally enforceable right to offset the recognized amounts, and there is the intention to settle on a net basis or to realize the asset and settle the liability simultaneously.



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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 comprises 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.

Inventories are measured at the lower of cost or net realizable value. The amount of any write-down of inventories to net realizable value and all losses of inventories are recognized as an expense in the period, the write-down or loss occurs. The amount of any reversal of any write-down of inventories arising from an increase in net realizable value is recognized as a reduction in the amount of inventories recognized as a cost of goods sold in the period in which the reversal occurs.

The carrying amount of those inventories is recognized as cost of goods sold in the period in which the related revenue is recognized.

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 are classified as held for sale. In order to be classified as held for sale, the assets or disposal groups must be available for immediate sale in their present condition and their sale must be highly probable. The assets or disposal groups that are classified as non-current assets held for sale are measured at the lower of their carrying amount and fair value less cost to sell.

The Company recognizes an impairment loss for any initial or subsequent write-down of an asset or disposal group to fair value less costs to sell, and a gain for any subsequent increase in fair value less costs to sell, up to the cumulative impairment loss previously recognized in accordance with K-IFRS No. 1036 "Impairment of Assets".

A non-current asset that is classified as held for sale or part of a disposal group classified as held for sale is not depreciated (or amortized).



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Investment property

Property held to earn rentals or for capital appreciation or both is classified as investment property. Investment property is measured initially at its cost. Transaction costs are included in the initial measurement. Subsequently, investment property is carried at depreciated cost less any accumulated impairment losses.

Subsequent costs are recognized in the carrying amount of investment property at cost or, if appropriate, as separate items if it is probable that future economic benefits associated with the item will flow to the Company and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. The costs of the day-to-day servicing are recognized in profit or loss as incurred.

Depreciation methods, useful lives and residual values are reviewed at the end of each reporting date and adjusted, if appropriate. The change is accounted for as a change in an accounting estimate.

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.

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.

Each part of an item of property, plant and equipment with a cost that is significant in relation to the total cost of the item is depreciated separately.



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The gain or loss arising from the derecognition of an item of property, plant and equipment is included in profit or loss when the item is derecognized.

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	3-10 years
Furniture and fixtures	3-20 years
Lease assets	2-30 years
Bearer plants	20 years

The estimated residual value, useful lives and the depreciation method are reviewed at least at the end of each reporting period and, if expectations differ from previous estimates, the changes are accounted for as changes in accounting estimates.

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. A qualifying asset is an asset that requires a substantial period of time to get ready for its intended use or sale. Financial assets and inventories that are manufactured or otherwise produced over a short period of time are not qualifying assets. Assets that are ready for their intended use or sale when acquired are not qualifying assets.

To the extent that the Company borrows funds specifically for the purpose of obtaining a qualifying asset, the Company determines the amount of borrowing costs eligible for capitalization as the actual borrowing costs incurred on that borrowing during the period less any investment income on the temporary investment of those borrowings. The Company immediately recognizes other borrowing costs as an expense. To the extent that the Company borrows funds generally and uses them for the purpose of obtaining a qualifying asset, the Company shall determine the amount of borrowing costs eligible for capitalization by applying a capitalization rate to the expenditures on that asset. The capitalization rate shall be the weighted average of the borrowing costs applicable to the borrowings of the Company that are outstanding during the period, other than borrowings made specifically for the purpose of obtaining a qualifying asset. The amount of borrowing costs that the Company capitalizes during a period shall not exceed the amount of borrowing costs incurred during that period.



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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 rights	4-75 years
Other intangible assets	2-15 years

Amortization periods and the amortization methods for intangible assets with finite useful lives are reviewed at the end of each reporting period. The useful lives of intangible assets that are not being amortized are reviewed at the end of each reporting period to determine whether events and circumstances continue to support indefinite useful life assessments for those assets. Changes are accounted for as changes in accounting estimates.

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

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

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 a commercially viable mineral deposit.



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(b) Development assets

When proved reserves are determined and development is sanctioned, development expenditures incurred are capitalized. These expenditures encompass the evaluation of oil fields, the 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 expenditures.

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

Government grants are not recognized unless there is reasonable assurance that the Company will comply with the grant's conditions and that the grant will be received.

(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

A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for considerations.

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 Company recognizes a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the commencement date, plus any initial direct costs incurred and an estimate of costs to dismantle and remove the underlying asset or to restore the underlying asset or the site on which it is located.



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The right-of-use asset is subsequently depreciated on a straight-line basis from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Company by the end of the lease term or the cost of the right-of-use asset reflects that the Company will exercise a purchase option. In that case the right-of-use asset will be depreciated over the useful life of the underlying asset, which is determined on the same basis as that of property and equipment. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date, discounted using the interest rate implicit in the lease or, if that rate cannot be readily determined the Company's incremental borrowing rate. 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.

Lease payments included in the measurement of the lease liability comprise the followings:

- fixed payments
- variable lease payments that depend on an index or a rate
- amounts expected to be payable under a residual value guarantee; and
- the exercise price under a purchase option that the Company's is reasonably certain to exercise, lease payments in an optional renewal period if the Company is reasonably certain to exercise an extension option, and penalties for early termination of a lease unless the Company is reasonably certain not to terminate early.

The lease liability is measured at amortized cost using the effective interest method. When the lease liability is remeasured in this way, a corresponding adjustment is made to the carrying amount of the right-of-use asset, or is recorded in profit of loss if the carrying amount of the right-of-use asset has been reduced to zero. The lease liability is remeasured when there is:

- a revised in-substance fixed lease payment,
- a change in future lease payments arising from a change in an index or rate,
- a change in the Company's estimate of the amount expected to be payable under a residual value guarantee, or
- a change in the Company's assessment of whether it will exercise a purchase, extension or termination option

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.



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2) As a lessor

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

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. If this is the case, then the lease is a finance lease; if not, then it is an operating lease. As part of this assessment, 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 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

If credit risk has increased significantly since the initial recognition, a loss allowance for lifetime expected credit loss is required to be measured at the end of every reporting period. If credit risk has not increased significantly since the initial recognition, a loss allowance is measured based on 12-month expected credit loss.

If the financial instrument has low credit risk at the end of the reporting period, the Company may assume that the credit risk has not increased significantly since initial recognition. However, a loss allowance for lifetime expected credit losses is required for contract assets or trade receivables that do not contain a significant financing component.

(a) Judgments on credit risk

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating expected credit losses, the Company considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes both quantitative and qualitative information and analysis, based on the Company's historical experience and informed credit assessment and including forward-looking information.



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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 rating is equivalent to investment grade defined by reliable credit rating agencies

(b) Measurement of expected credit losses

Lifetime expected credit losses are the expected credit losses that result from all possible default events over the expected life of a financial instrument. 12-month expected credit losses are the portion of lifetime expected credit losses that result from default that are possible within the 12 months after the reporting date. The maximum period considered when estimating expected credit losses is the maximum contractual period over which the Company is exposed to credit risk.

Expected credit losses are a probability-weighted estimate of credit losses. Credit losses are measured as the present value of all cash shortfalls such as the difference between the cash flows due to the entity in accordance with the contract and the cash flows that the Company expects to receive.

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



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(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, 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 individual assets. If it is not feasible to measure the recoverable amount of an individual asset, management then estimates the recoverable amount of a 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 has determined that each individual operating entities constitutes a CGU.

The recoverable amount of an asset or CGU is the greater of its value-in-use and its fair value less costs to sell. To estimate the value-in-use, the Company applies a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or CGU in question, without adjusting the estimated future cash flows. The estimated future cash flows are based on the expected cashflows to be generated by the asset or CGU.

An impairment loss is recognized if the carrying amount of an asset or a CGU exceeds its recoverable amount. Impairment losses are recognized in profit or loss.

Goodwill acquired in a business combination is allocated to each CGU that is expected to benefit from the synergies arising from the goodwill acquired. Any impairment identified at the CGU level will first reduce the carrying amount of goodwill and then be used to reduce the carrying amount of the other assets in the CGU on a pro rata basis. Except for impairment losses in respect of goodwill which are never reversed, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.



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Derivative financial instruments, including hedge accounting

Derivatives are initially recognized at fair value. 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).

On initial designation of the hedge, the Company formally documents the relationship between the hedging instruments and hedged items, including the risk management objectives and strategy in undertaking the hedge transaction, together with the methods that will be used to assess the effectiveness of the hedging relationship.

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. The gain or loss from remeasuring the hedging instrument at fair value for a derivative hedging instrument and the gain or loss on the hedged item attributable to the hedged risk are recognized in profit or loss in the same line item of the consolidated statement of comprehensive income.

The Company discontinues fair value hedge accounting if the hedging instrument expires or is sold, terminated or exercised, or if the hedge no longer meets the criteria for hedge accounting. Any adjustment arising from gain or loss on the hedged item attributable to the hedged risk is amortized to profit or loss from the date the hedge accounting is discontinued.

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.

If the hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, terminated, exercised, or the designation is revoked, then hedge accounting is discontinued prospectively. The cumulative gain or loss on the hedging instrument that has been recognized in other comprehensive income is reclassified to profit or loss in the periods during which the forecasted transaction occurs. If the forecasted transaction is no longer expected to occur, then the balance in other comprehensive income is recognized immediately in profit or loss.



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(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.

(a) Financial liabilities measured at fair value through profit or loss

A financial liability is classified as at fair value through profit or loss if it is classified as held-for-trading, it is a derivative or it is designated as such on initial recognition. Subsequent to initial recognition, financial liabilities at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss. Upon initial recognition, transaction costs that are directly attributable to the acquisition are recognized in profit or loss as incurred.

(b) Financial liabilities measured at amortized cost

Non-derivative financial liabilities other than financial liabilities measured at fair value through profit or loss are classified as financial liabilities measured at amortized cost. At the date of initial recognition, financial liabilities measured at amortized cost are measured at fair value after deducting transaction costs that are directly attributable to the acquisition. Financial liabilities measured at amortized cost are measured at amortized cost using the effective interest method subsequently to initial recognition.

(c) Derecognition of financial liabilities

The Company derecognizes a financial liability when its contractual obligations are discharged or cancelled, or expired. The Company also derecognizes a financial liability when its terms are modified and the cash flows of the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognized at fair value. On derecognition of a financial liability, the difference between the carrying amount extinguished and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.



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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. Cost includes all expenditures related directly to specific projects and an allocation of fixed and variable overheads incurred in the Company's contract activities based on normal operating capacity.

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

(a) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled within 12 months after the end of the period in which the employees render the related service. When an employee has rendered service to the Company during an accounting period, the Company recognizes the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service as profit or loss. If the Company has a legal or constructive obligation which can be reliably measured, the Company recognizes the amount of expected payment for profit-sharing and bonuses payable as liabilities.

(b) Other long-term employee benefits

Other long-term employee benefits include employee benefits that are settled beyond 12 months after the end of the period in which the employees render the related service, and are calculated at the present value of the amount of future benefit that employees have earned in return for their service in the current and prior periods, less the fair value of any related assets. Any actuarial gains and losses are recognized in profit or loss in the period in which they arise.

(c) Retirement benefits: Defined contribution plans

For defined contribution plans, when an employee has rendered service to the Company during a period, the Company recognizes the contribution payable to a defined contribution plan in exchange for that service as an accrued expense, after deducting any contributions already paid. If the contributions already paid exceed the contribution due for service before the end of the reporting period, the Company recognizes that excess as an asset (prepaid expense) to the extent that the prepayment will lead to a reduction in future payments or a cash refund.



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(d) Retirement benefits: Defined benefit plans

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan. 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; that benefit is discounted to determine its present value. The fair value of plan assets is deducted. The calculation is performed annually by an independent actuary using the projected unit credit method.

The discount rate is the yield at the reporting date on corporate bonds that have maturity dates approximating the terms of the Company's obligations and that are denominated in the same currency in which the benefits are expected to be paid. The Company recognizes all actuarial gains and losses arising from actuarial assumption changes and experiential adjustments in other comprehensive income when incurred.

When the fair value of plan assets exceeds the present value of the defined benefit obligation, the Company recognizes an asset, to the extent of the present value of the total of cumulative any economic benefits available in the form of refunds from the plan or reduction in the future contributions to the plan.

Remeasurements of net defined benefit liabilities, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognized immediately in other comprehensive income. The Company determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability (asset), taking into account any changes in the net defined benefit liability (asset) during the period as a result of contributions and benefit payments, net interest expense and other expenses related to defined benefit plans are recognized in profit or loss.

When the benefits of a plan are changed or when a plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss in curtailment is recognized immediately in profit or loss. The Company recognizes gains and losses on the settlement of a defined benefit plan when the settlement occurs.

Provisions

Provisions are recognized when the Company has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The risks and uncertainties that inevitably surround many events and circumstances are taken into account in reaching the best estimate of a provision. Where the effect of the time value of money is material, provisions are determined at the present value of the expected future cash flows.



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Where some or all of the expenditures required to settle a provision are expected to be reimbursed by another party, the reimbursement shall be recognized when, and only when, it is virtually certain that reimbursement will be received if the entity settles the obligation. The reimbursement shall be treated as a separate asset.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimates. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed.

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.

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

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. They are initially measured at cost and subsequently carried at cost less accumulated impairment losses.



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

(b) Emission liability

Emission liability is a present obligation to submit emission rights to the government for the emission of greenhouse gas. It is recognized when there is a high possibility of outflows of resources in performing the obligation and the associated costs can be estimated reliably. The emission liability represents the estimated obligation for submission of emission rights to the government during the performance period. It is measured based on the expected quantity of emission during the performance period in excess of the available emission allowance and the market unit price of such emission rights at the end of the reporting period. The emission liability is derecognized when the emissions rights are submitted to the government.

Equity instruments

(a) Share capital

Common stock is classified as equity and the incremental costs arising directly attributable to the issuance of common stock less their tax effects are deducted from equity.

If the Company reacquires its own equity instruments, the amount of those instruments (“treasury shares”) are presented as a contra equity account. No gain or loss is recognized in profit or loss on the purchase, sale, issuance or cancellation of its own equity instruments. When treasury shares are sold or reissued subsequently, the amount received is recognized as an increase to equity, and the resulting surplus or deficit on the transaction is recorded in capital surplus.

(b) 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.



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(a) Sale of goods

Goods sold by the Company consist mainly of various products within the steel and trading segments, including steel, chemicals, auto parts and machinery.

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” in the respective contracts. The Company’s export contracts typically stipulate transfer of control to the customer at the shipment of the products. Invoices are usually issued on 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 offers certain discount when the customer makes payments prior to the due date in the invoice in accordance with the payment terms. The Company recognized revenue only to the extent that it is highly probable that a significant reversal of cumulative revenue recognized will not occur when the credit term period elapses.

(b) Transportation service

Revenue for the transportation services performance included in the Company’s product sales contracts is recognized over the period when in which the services are provided. Revenue is measured by reference to the degree to which the service has been completed. The billing date and payment terms for the service charge are the same as those for the 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 performs 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 outcome of 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 activities 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.



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If the outcome of the contract cannot be reliably estimated, revenue is recognized only to the extent of the contract costs that are probable to be recovered. If it is probable that the total contract costs will exceed the total contract revenue, expected losses are immediately recognized in profit or loss.

The Company issues an invoice to the customer upon receipt of the customer's progress confirmation, and payment is typically 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, revenue is recognized based the percentage completion, even if legal ownership or physical occupancy of the incomplete construction is not transferred to the customer during the construction period. Such recognition is done 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, revenue is recognized upon completion of construction when the control of the apartments and shopping centers are transferred to customers.

The billing and settlement terms of the pre-sale contract vary 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. The 'effective interest rate' is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to:

- the gross carrying amount of the financial asset; or
- the amortized cost of the financial liability.



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In calculating interest income and expense, the effective interest rate is applied to the gross carrying amount of the asset (when the asset is not credit-impaired) or to the amortized cost of the liability. However, for financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by applying the effective interest rate to the amortized cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

Income taxes

Income tax expense comprises current and deferred tax. Current tax and deferred tax are recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

The Company recognizes interest and penalties related to corporate tax as if it is applicable to the income taxes, the Company applies K-IFRS 1012 “Income Taxes”, if it is not applicable to the income taxes, the Company applies K-IFRS 1037 “Provisions Contingent Liabilities and Contingent Assets”.

(a) Current income tax

Current income tax is the expected income tax payable or receivable on the taxable profit or loss for the year, using tax rates enacted or substantively enacted at the end of the reporting period and any adjustment to tax payable in respect of previous years. The taxable profit is different from the accounting profit for the period since the taxable profit is calculated excluding the temporary differences, which will be taxable or deductible in determining taxable profit of future periods, and non-taxable or non-deductible items from the accounting profit.

The Company offsets current tax assets and current tax liabilities if, and only if, the Company:

- has a legally enforceable right to set off the recognized amounts, and
- intends either to settle on a net basis, or to realize the asset and settle the liability simultaneously.

(b) Deferred income tax

The measurement of deferred income tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities. The Company recognizes a deferred income tax liability for all taxable temporary differences associated with investments in subsidiaries, associates, and joint ventures, except to the extent that the Company is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. The Company recognizes a deferred income tax asset for deductible temporary differences arising from investments in subsidiaries, associates and joint ventures, to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized. However, deferred tax is not recognized for the following temporary differences: taxable temporary differences arising on the initial recognition of goodwill, or the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting profit or loss nor taxable income.



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A deferred income tax asset is recognized for the carryforward of unused tax losses, tax credits and deductible temporary differences to the extent that it is probable that future taxable profit will be available against which the unused tax losses, tax credits and deductible temporary differences can be utilized. The future taxable profit depends on reversing taxable temporary differences. When there are insufficient taxable temporary differences, the probability of future taxable profit (including the reversal of temporary differences) should be considered.

The carrying amount of a deferred income tax asset is reviewed at the end of each reporting period and is reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefit of part or all of that deferred income tax asset to be utilized.

Deferred income tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. Deferred income tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current income tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current income tax liabilities and assets on a net basis.

Earnings per share

Management calculates basic earnings per share (“EPS”) data for POSCO HOLDINGS INC.’s common shares, which is presented at the end of the statement of comprehensive income. Basic EPS is calculated by dividing profit attributable to common shareholders of POSCO HOLDINGS INC. by the weighted average number of common shares outstanding during the period, adjusted for own shares held. Diluted earnings per share is calculated by adjusting basic EPS and weighted average number of common shares, concerning the effect of all dilutive potential common shares.

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.



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Share-based payment

For share based payment transactions in which shares or stock options are granted to employees in exchange for goods or services received, if the fair value of the goods or services received cannot be measured reliably, the fair value of goods or services received is indirectly measured based on the fair value of equity instruments, and the amount is recognized as employee benefits (current expense) and equity during the vesting period. If the vesting condition of a share option is other than service condition or market condition, the recognized employee cost is adjusted to be determined based on the actual quantity of the stock option to be totally vested.

Joint Arrangements

A joint arrangement, wherein two or more parties have joint control, is classified as either a joint operation or a joint venture. A joint operator recognizes its direct right to the assets, liabilities, revenues and expenses of joint operations and its share of any jointly held or incurred assets, liabilities, revenues and expenses. Interests in joint ventures are accounted for using the equity method, after initially being recognized at cost in the consolidated statement of financial position.

New standards and interpretations not yet adopted

A number of new standards are effective for annual periods beginning after January 1, 2022 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. 1012 “Income Tax” – Deferred Tax related to Assets and Liabilities arising from a Single Transaction

The amendment clarifies the coverage of initial recognition exemptions accounting for deferred tax related to both assets and liabilities arising from a single transaction. A transaction that is not a business combination may lead to the initial recognition of deferred tax asset and deferred tax liability, and at the time of the transaction, affect neither accounting profit nor tax profit. The amendment is effective for annual periods beginning on or after January 1, 2023. 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. 1001 “Presentation of Financial Statements” - Classification of Liabilities as Current or Non-current



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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, 2023. However, the International Accounting Standards Board has published an amendment that postpones the effective date of this amendment to fiscal years beginning on or after January 1, 2024, and the Korea Accounting Standards Board is also planning to revise the K-IFRS to reflect this. The Company expects that an exchangeable bond (₩1,358,294 million as of December 31, 2022) will be reclassified from non-current liabilities to current liabilities upon the adoption of the amendments.

(c) K-IFRS No. 1001 “Presentation of Financial Statements” - Disclosure of Accounting Policies

Material accounting policy information considering with other information included in financial statements is expected to influence the decisions of primary users of financial statements, and is required to be disclosed. The amendment is effective for annual periods beginning on or after January 1, 2023. Early application is permitted. The Company is analyzing the effect of the amendments to the consolidated financial statements.

(d) 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 techniques or inputs are clarified as changes in accounting estimates unless they result from the correction of prior period errors. The amendment is effective for annual periods beginning on or after January 1, 2023. Early application is permitted. The Company does not expect the effect of the amendments to the consolidated financial statements to be significant.

(e) K-IFRS No. 1001 “Presentation of Financial Statements” - Disclosure of gains and losses on valuation of financial liabilities with exercise price adjustment conditions

When all or part of a financial instrument subject to the condition in which the exercise price is adjusted according to changes of the issuer’s stock price, is classified as a financial liability, the carrying amount of the financial liability and related gains and losses are required to be disclosed. The amendment is effective for annual periods beginning on or after January 1, 2023. Early application is permitted. The Company does not expect the effect of the amendments to the consolidated financial statements to be significant.



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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.



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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 oversees 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.

① 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.



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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 settings will cease on June 30, 2023 and all other LIBOR publication has ceased on December 31, 2021. 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.

The Company plans to modify the clause in a contract or change the LIBOR rate to alternative benchmark rate for the financial instruments for which LIBOR settings are not yet ceased to be published. The market trend of CD rate related financial instruments is monitored, and if needed, the Company plans to modify the clause in the contract or change the interest rate from CD rate to KOFR.

As of December 31, 2022, the financial instruments with USD LIBOR and CD rate as the benchmark rates are mostly associated with interest rate benchmark reform risk. The Company is exposed to a variety of risks: legal risk, process risk, and operational risk, due to the modification of contract. In addition, the Company is exposed to risk associated with monitoring the market trend related to alternative benchmark rate for risk management of new alternative benchmark rate and establishing appropriate risk management strategy.

The Company monitors and manages the Group's transition to alternative rates. The Company evaluates the extent to which contracts reference IBOR cash flows, whether such contracts will need to be amended as a result of IBOR reform and how to manage communication about IBOR reform with counterparties.

As of December 31, 2022, USD LIBOR and CD floating rate loans, borrowings, and derivatives are exposed to interest rate benchmark reform risk. For certain USD LIBOR floating rate financial instruments, the Company completed the modification of contracts by December 31, 2022. The termination of the publication of USD LIBOR date is expected to be June 30, 2023 which may be subject to change. The Company plans to replace USD LIBOR with SOFR immediately after cessation.



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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 for which modification of clause has been 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, 2022 are as follows:

(in millions of Won)

Category(*4)	USD LIBOR(*3)	
	Transition not yet completed	Modification of clause completed
Non-derivative financial assets(*1)		
Loans	₩ 3,802	—
Non-derivative financial liabilities(*1)		
Borrowings	2,553,006	15,971
Derivatives(*2)		
Interest rate swap	35,781	7,357

(*1) Based on nominal amount

(*2) Based on related financial assets(liabilities) amount

(*3) Excluded financial instruments with maturity date before June 30, 2023

(*4) Excluded financial instruments not obligated to use alternative benchmark rate as of December 31, 2022

Financial instruments using USD LIBOR that mature before June 30, 2023, and have not yet transitioned to alternative reference rates include borrowings of ₩211,969 million, loans of ₩22,811 million, and derivative assets(liabilities) of ₩8,236 million. The transition to alternative benchmark rate is not needed as the USD LIBOR publication will continue until maturity.



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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, 2022 and 2021 is as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Total borrowings	₩24,305,662	21,741,216
Less: Cash and cash equivalents	8,053,108	4,775,166
Net borrowings	16,252,554	16,966,050
Total equity	58,257,401	54,804,943
Net borrowings-to-equity ratio	27.90%	30.96%

5. Cash and Cash Equivalents

Cash and cash equivalents as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Cash	₩ 7,510	8,940
Demand deposits and checking accounts	2,826,227	2,310,431
Time deposits	2,638,838	947,904
Other cash equivalents	2,580,533	1,507,891
	<u>₩8,053,108</u>	<u>4,775,166</u>

As of December 31, 2022, cash and cash equivalents amounting to ₩7,638 million of subsidiaries of the Company, such as POSCO, is restricted.



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6. Trade Accounts and Notes Receivable

(a) Trade accounts and notes receivable as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Current		
Trade accounts and notes receivable	₩8,696,067	9,266,729
Finance lease receivables	—	126
Due from customers for contract work	1,407,278	1,110,082
Less: Allowance for doubtful accounts	(333,792)	(314,955)
Non-current	<u>₩9,769,553</u>	<u>10,061,982</u>
Trade accounts and notes receivable	₩ 68,342	113,370
Less: Allowance for doubtful accounts	(44,309)	(50,165)
	<u>₩ 24,033</u>	<u>63,205</u>

The Company sold trade accounts and notes receivable with recourse to financial institutions. These trade accounts and notes receivable have not been derecognized from the statement of financial position, because the Company retains substantially all of the risks and rewards associated with the transferred assets. The amounts received on transfer have been recognized as secured borrowings. As of December 31, 2022 and December 31, 2021, the carrying amounts of such secured borrowings are ₩215,133 million and ₩270,101 million, respectively, which are presented in the statements of financial position as the short-term borrowings.

(b) Finance lease receivables are as follows:

<i>(in millions of Won)</i>	Leased items	<u>2022</u>	<u>2021</u>
Customer			
Rental contractor (executives and employees)	Songdo rental apartment contract	₩—	75
ZHAOHUUI PROSPERITY INT'L LTD	Office lease	—	51
		<u>₩—</u>	<u>126</u>

(c) As of December 31, 2022 and 2021, the Company's total lease investment and net lease investment are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Less than 1 year	₩—	126
Undiscounted lease payments	—	126
Net Investment in the lease	<u>₩—</u>	<u>126</u>



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7. Other Receivables

(a) The details of other receivables as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Current		
Loans	₩ 278,346	331,692
Other accounts receivable	1,381,804	1,305,383
Accrued income	334,741	350,301
Deposits	131,468	130,011
Others	23,201	17,705
Lease receivables	46,764	63,568
Less: Allowance for doubtful accounts	(83,627)	(94,051)
	<u>₩2,112,697</u>	<u>2,104,609</u>
Non-current		
Loans	₩1,082,139	884,990
Other accounts receivable	237,161	196,018
Accrued income	121,783	121,041
Deposits	292,722	390,971
Lease receivables	55,312	80,317
Less: Allowance for doubtful accounts	(268,786)	(258,194)
	<u>₩1,520,331</u>	<u>1,415,143</u>

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

<i>(in millions of Won)</i>	Customer	Leased items	<u>2022</u>	<u>2021</u>
	Pohang University of Science and Technology	Lease contract	₩ 7,738	—
	Korea Business Angels Association	Lease contract	2,621	—
	HEUNG-A SHIPPING CO., LTD., HEUNG-A LINE CO., LTD., MSC	6 Container Ships, 4 Tankers	88,573	119,636
	KOGAS, ONGC Videsh Limited, GAIL(India) Limited, Myanmar Oil and Gas Enterprise	Helicopter, Ship, Office, Jetty	3,144	24,249
			<u>₩102,076</u>	<u>143,885</u>



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(c) As of December 31, 2022 and 2021, total lease investment and net lease investment are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Less than 1 year	₩ 48,127	63,782
1 year - 3 years	19,861	58,589
3 years - 5 years	5,371	5,388
Over 5 years	64,811	52,634
Undiscounted lease payments	138,170	180,393
Unrealized interest income	(36,094)	(36,508)
Present value of minimum lease payment	<u>₩102,076</u>	<u>143,885</u>

8. Other Financial Assets

Other financial assets as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Current		
Derivatives assets	₩ 223,771	66,558
Debt securities	121,122	157,895
Deposit instruments(*1,2)	2,558,946	2,709,171
Short-term financial instruments(*2)	8,006,081	10,514,093
	<u>₩10,909,920</u>	<u>13,447,717</u>
Non-current		
Derivatives assets	₩ 136,224	182,538
Equity securities(*3)	1,462,088	1,466,061
Debt securities	78,901	3,968
Other securities(*3)	632,469	430,998
Deposit instruments(*2)	22,856	36,109
	<u>₩ 2,332,538</u>	<u>2,119,674</u>

(*1) As of December 31, 2021, ₩4,314 million is restricted in use for a government project.

(*2) As of December 31, 2022 and 2021, financial instruments amounting to ₩73,192 million and ₩83,738 million, respectively, are restricted in use for financial arrangements, pledge and others.

(*3) As of December 31, 2022 and 2021, ₩153,640 million and ₩189,198 million of equity and other securities, respectively, have been provided as collateral for borrowings, construction projects and others.



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

9. Inventories

(a) Inventories as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Finished goods	₩ 2,508,370	2,583,191
Merchandise	1,237,203	1,326,736
Semi-finished goods	3,453,150	2,902,717
Raw materials	4,171,049	3,777,112
Fuel and materials	1,109,100	917,906
Construction inventories	470,790	716,446
Materials-in-transit	2,738,439	3,051,786
Others	100,873	101,133
	<u>15,788,974</u>	<u>15,377,027</u>
Less: Allowance for inventories valuation	(316,557)	(161,929)
	<u>₩15,472,417</u>	<u>15,215,098</u>

(b) The changes of allowance for inventories valuation for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Beginning	₩161,929	131,642
Loss on valuation of inventories	259,678	78,783
Utilization on sale of inventories	(97,749)	(49,528)
Others	(7,301)	1,032
Ending	<u>₩316,557</u>	<u>161,929</u>

During the year ended December 31, 2022, in addition to loss on valuation of inventories, ₩95,278 million of damage caused by the flooding of the Naengcheon stream in Pohang was directly recognized in cost of sales.



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

10. Assets Held for Sale

Details of assets held for sale as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

Asset	2022		2021	
	Subsidiaries(*3,6)	The controlling company(*1,2,3)	Subsidiaries(*6)	Total
Cash and cash equivalents(*4)	₩ 174	—	554	554
Account receivables and other receivables	648	—	956	956
Investment stock in joint ventures(*5,7)	—	—	13,044	13,044
Tangible assets	10,552	29,236	30,995	60,231
Intangible assets	—	553	2,977	3,530
Others	629	—	155	155
	₩ 12,003	29,789	48,681	78,470
Liability				
Others	₩ 5	185	4	189

- (*1) During the year ended December 31, 2021, the Company sold the land in the Yanghak Neighborhood Park development reserve area that was classified as asset held for sale and the Company recognized ₩43,760 million of gain on disposal.
- (*2) During the year ended December 31, 2021, the Company decided to trade and exchange the emission rights and reclassified the emission rights to assets held for sale. After that, the Company recognized ₩1,316 million loss on disposal of assets held for sale.
- (*3) During the year ended December 31, 2021, the Company decided to dispose Synthetic Natural Gas (SNG) facility for which use was discontinued, and classified as asset held for sale for ₩24,000 million. Meanwhile, the facility was transferred to the newly established company (POSCO) through vertical spin-off during the year ended December 31, 2022. During the year ended December 31, 2022, the Company disposed of the assets held for sale for ₩13,695 million. As of December 31, 2022, the remaining amount ₩10,305 million is included in assets held for sale.
- (*4) 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 and December 31, 2021.
- (*5) During the year ended December 31, 2021, the Company decided to dispose of interests of POSCO(Guangdong) Automotive Steel Co, Ltd. which is classified investment in joint ventures as asset held for sale for ₩13,044 million. The Company disposed of the investments in joint venture and recognized ₩3,964 million of loss on disposal during the year ended December 31, 2022.
- (*6) During the year ended December 31, 2021, the Company decided to dispose of tangible and intangible assets of HUME COAL PTY LTD, a subsidiary, and classified as assets held for sale for ₩33,972 million. The Company disposed of the assets held for sale, and recognized ₩55,025 million of gain on disposal during the year ended December 31, 2022.
- (*7) During the year ended December 31, 2022, the Company decided to dispose of interests of CSP-Compania Siderurgica do Pecem which was previously classified investment in joint ventures and fully impaired. It was classified as held-for-sale assets as of December 31, 2022.



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

11. Investments in Associates and Joint ventures

(a) Investments in associates and joint ventures as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	2022	2021
Investments in associates	₩2,518,906	2,203,274
Investments in joint ventures	2,477,645	2,311,373
	<u>₩4,996,551</u>	<u>4,514,647</u>

(b) Details of investments in associates as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	2022				2021
	Number of shares	Ownership (%)	Acquisition cost	Book value	Book value
[Domestic]					
EQP POSCO Global NO1 Natural Resources Private Equity Fund	178,691,901,565	27.23	₩ —	₩ —	176,136
Samcheok Blue Power Co.,Ltd.(*1)	4,507,138	34.00	429,904	352,500	382,887
SNNC	18,130,000	49.00	90,650	182,414	171,332
QSONE Co., Ltd.	200,000	50.00	84,395	86,378	86,058
Chun-cheon Energy Co., Ltd(*1)	17,308,143	49.10	86,541	9,513	9,571
Western Inland highway Co., Ltd.	—	—	—	—	53,563
Pocheon-Hwado Highway Corp.(*1)	6,981,975	27.64	34,910	27,165	28,813
CHUNGJU ENTERPRISE CITY DEVELOPMENT Co., Ltd	1,181,160	29.53	5,906	14,605	19,191
Daesung Steel(*2)	108,038	17.54	14,000	20,469	19,073
PCC Amberstone Private Equity Fund 1(*2)	8,130,098,340	8.80	7,882	9,326	9,251
Others (58 companies)(*1)				151,708	107,035
				<u>854,078</u>	<u>1,062,910</u>
[Foreign]					
South-East Asia Gas Pipeline Company Ltd.	135,219,000	25.04	132,907	290,318	238,601
AES-VCM Mong Duong Power Company Limited(*1)	—	30.00	164,303	209,594	182,639
9404-5515 Quebec Inc.	284,463,243	25.85	328,509	331,261	135,738
FQM Australia Holdings Pty Ltd	186,000,030	30.00	109,568	98,103	91,052
Eureka Moly LLC	—	20.00	240,123	14,574	13,633
AMCI (WA) PTY LTD	49	49.00	209,664	57,830	67,972
NCR LLC	—	22.10	181,535	187,372	102,319
KOREA LNG LTD.	2,400	20.00	135,205	29,124	31,340
Nickel Mining Company SAS	3,234,698	49.00	157,585	90,636	48,249
ZHEJIANG HUAYOU-POSCO ESM CO., LTD	565,680,000	40.00	104,432	98,933	22,769
Zhongyue POSCO (Qinhuangdao) Tinplate Industrial Co., Ltd(*3)	—	—	—	—	19,099
PT. Wampu Electric Power(*1)	8,708,400	20.00	10,054	16,659	15,851
POSCO SeAH Steel Wire(Nantong) Co., Ltd.	50	25.00	4,723	8,590	9,140
Others (29 companies)(*1)				231,834	161,962
				<u>1,664,828</u>	<u>1,140,364</u>
				<u>₩2,518,906</u>	<u>2,203,274</u>

- (*1) As of December 31, 2022 and 2021, investments in associates amounting to ₩628,573 million and ₩629,832 million, respectively, are provided as collateral in-relation to the associates' borrowings.
- (*2) As of December 31, 2022, 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.



POSCO HOLDINGS INC. and Subsidiaries
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As of December 31, 2022 and 2021

(c) Details of investments in joint ventures as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

Company	2022			2021	
	Number of shares	Ownership (%)	Acquisition cost	Book value	Book value
[Domestic]					
POSCO MITSUBISHI CARBON TECHNOLOGY	11,568,000	60.00	₩ 115,680	₩ 161,465	169,838
Others (6 companies)				8,845	6,676
				<u>170,310</u>	<u>176,514</u>
[Foreign]					
Roy Hill Holdings Pty Ltd(*1)	13,117,972	12.50	1,528,672	1,418,022	1,346,712
POSCO-NPS Niobium LLC	325,050,000	50.00	364,609	412,002	393,793
KOBRASCO	2,010,719,185	50.00	32,950	103,044	68,296
BX STEEL POSCO Cold Rolled Sheet Co., Ltd.	—	25.00	61,961	111,219	107,650
DMSA/AMSA(*1)	—	3.89	346,880	23,740	24,144
CSP - Compania Siderurgica do Pecem(*2)	1,578,377,432	20.00	676,060	—	52,257
HBIS-POSCO Automotive Steel Co., Ltd(*3)	—	50.00	235,251	216,138	110,769
Others (9 companies)				23,170	31,238
				<u>2,307,335</u>	<u>2,134,859</u>
				<u>₩2,477,645</u>	<u>2,311,373</u>

- (*1) As of December 31, 2022 and 2021, the investments in joint ventures are provided as collateral in relation to the joint ventures' borrowings.
- (*2) During the year ended December 31, 2022, the Company decided to dispose of CSP - Compania Siderurgica do Pecem and recognized the impairment loss of ₩160,415 million since the remaining carrying amounts exceeded the recoverable amount. The Company reclassified the investment to assets held for sale.



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(d) The movements of investments in associates and joint ventures for the years ended December 31, 2022 and 2021 were as follows:

1) For the year ended December 31, 2022

(in millions of Won)	December 31,					December 31,
Company	2021					2022
[Domestic]	Book value	Acquisition	Dividends	Share of profits (losses)	Other increase (decrease)(*1)	Book value
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 Steel	19,073	—	—	1,396	—	20,469
PCC Amberstone Private Equity Fund 1	9,251	—	(652)	1,104	(377)	9,326
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
	<u>1,239,424</u>	<u>51,082</u>	<u>(188,630)</u>	<u>151,482</u>	<u>(228,970)</u>	<u>1,024,388</u>
[Foreign]						
South-East Asia Gas Pipeline Company Ltd.	238,601	—	(14,541)	50,143	16,115	290,318
AES-VCM 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 Industrial Co., Ltd	19,099	—	—	213	(19,312)	—
PT. Wampu Electric Power	15,851	—	(2,474)	823	2,459	16,659
POSCO 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	—	—	6,527	(2,958)	111,219
DMSA/AMSA	24,144	—	—	(2,108)	1,704	23,740
CSP - Companhia Siderurgica do Pecem	52,257	—	—	(90,395)	38,138	—
HBIS-POSCO Automotive Steel Co., Ltd	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
	<u>3,275,223</u>	<u>493,294</u>	<u>(449,614)</u>	<u>524,778</u>	<u>128,482</u>	<u>3,972,163</u>
	<u>₩ 4,514,647</u>	<u>544,376</u>	<u>(638,244)</u>	<u>676,260</u>	<u>(100,488)</u>	<u>4,996,551</u>

- (*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 ₩10,065 million considering the low asset quality and assessment of recoverable amount.



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2) For the year ended December 31, 2021

(in millions of Won)

Company	December 31, 2020 Book value	Acquisition	Dividends	Share of profits (losses)	Other increase (decrease)(*1)	December 31, 2021 Book value
[Domestic]						
EQP POSCO Global NO1 Natural Resources Private Equity Fund	₩ 175,939	—	—	197	—	176,136
Samcheok Blue Power Co., Ltd.	145,092	250,495	(405)	(4,248)	(8,047)	382,887
SNNC	160,332	—	(18,243)	29,314	(71)	171,332
QSONE Co., Ltd.	86,004	—	(1,140)	1,194	—	86,058
Chun-cheon Energy Co., Ltd	23,913	—	—	(15,094)	752	9,571
Western Inland highway CO., LTD.	45,070	4,031	—	(1,981)	6,443	53,563
NEXTRAIN Co., Ltd.	47,364	—	—	(127)	(47,237)	—
Pocheon-Hwado Highway Corp.	13,721	13,954	—	(2,679)	3,817	28,813
CHUNGJU ENTERPRISE CITY DEVELOPMENT Co., Ltd						
Daesung Steel	16,990	—	—	2,083	—	19,073
PCC Amberstone Private Equity Fund 1	9,230	—	(674)	977	(282)	9,251
POSCO MITSUBISHI CARBON TECHNOLOGY	153,457	—	—	16,243	138	169,838
Others (62 companies)	117,486	38,021	(7,159)	6,399	(41,036)	113,711
	<u>1,011,735</u>	<u>306,501</u>	<u>(27,621)</u>	<u>34,332</u>	<u>(85,523)</u>	<u>1,239,424</u>
[Foreign]						
South-East Asia Gas Pipeline Company Ltd.	199,342	—	(27,828)	48,159	18,928	238,601
AES-VCM Mong Duong Power Company Limited	158,777	—	(28,623)	35,959	16,526	182,639
9404-5515 Quebec Inc.	123,296	—	(16,999)	18,071	11,370	135,738
FQM Australia Holdings Pty Ltd	—	109,568	—	(17,997)	(519)	91,052
Eureka Moly LLC	43,520	—	—	(32,607)	2,720	13,633
AMCI (WA) PTY LTD	71,732	—	—	(5,986)	2,226	67,972
NCR LLC	46,608	44,797	—	(2,016)	12,930	102,319
KOREA LNG LTD.	42,229	—	(9,178)	9,145	(10,856)	31,340
Nickel Mining Company SAS	40,890	—	—	7,243	116	48,249
ZHEJIANG HUAYOU-POSCO ESM CO., LTD	22,147	—	—	(1,838)	2,460	22,769
Zhongyue POSCO (Qinhuangdao) Tinplate Industrial Co., Ltd						
PT. Wampu Electric Power	15,181	—	—	1,752	2,166	19,099
POSCO SeAH Steel Wire(Nantong) Co., Ltd.	12,716	—	—	1,389	1,746	15,851
Roy Hill Holdings Pty Ltd	7,110	—	—	675	1,355	9,140
POSCO-NPS Niobium LLC	1,418,056	—	(522,947)	392,887	58,716	1,346,712
KOBRASCO	353,725	—	(20,479)	28,729	31,818	393,793
BX STEEL POSCO Cold Rolled Sheet Co., Ltd.	54,400	—	(39,059)	52,118	837	68,296
DMSA/AMSA	91,270	—	—	6,291	10,089	107,650
CSP - Companhia Siderurgica do Pecem	31,104	—	—	674	(7,634)	24,144
HBIS-POSCO Automotive Steel Co., Ltd	—	19,176	—	22,398	10,683	52,257
Others (38 companies)	—	109,057	—	1,636	76	110,769
	<u>132,411</u>	<u>12,184</u>	<u>(4,713)</u>	<u>48,555</u>	<u>4,763</u>	<u>193,200</u>
	<u>2,864,514</u>	<u>294,782</u>	<u>(669,826)</u>	<u>615,237</u>	<u>170,516</u>	<u>3,275,223</u>
	<u>₩3,876,249</u>	<u>601,283</u>	<u>(697,447)</u>	<u>649,569</u>	<u>84,993</u>	<u>4,514,647</u>

(*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.



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Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(e) Summarized financial information of associates and joint ventures as of and for the years ended December 31, 2022 and 2021 are as follows:

1) December 31, 2022

(in millions of Won)

Company	Assets	Liabilities	Equity (deficit)	Sales	Net income (loss)
[Domestic]					
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.	366,163	244,455	121,708	—	(1,175)
CHUNGJU ENTERPRISE CITY DEVELOPMENT Co., Ltd	24,926	5,769	19,157	17,189	(1,521)
Daesung Steel	175,429	90,126	85,303	128,401	7,957
PCC Amberstone Private Equity Fund 1	106,024	—	106,024	13,877	12,546
POSCO MITSUBISHI CARBON 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-VCM 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
POSCO 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)



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2) December 31, 2021

(in millions of Won)

Company	Assets	Liabilities	Equity (deficit)	Sales	Net income (loss)
[Domestic]					
EQP POSCO Global NO1 Natural Resources Private Equity Fund	₩ 400,339	574	399,765	—	5,411
Samcheok Blue Power Co., Ltd.	2,301,783	1,620,752	681,031	—	(6,226)
SNNC	628,075	236,726	391,349	869,815	75,125
QSONE Co., Ltd.	251,158	79,042	172,116	17,962	2,388
Chun-cheon Energy Co., Ltd	616,111	528,683	87,428	327,534	(5,424)
Western Inland highway CO., LTD.	305,166	42,052	263,114	—	(2,137)
Pocheon-Hwado Highway Corp.	217,888	95,005	122,883	—	(929)
CHUNGJU ENTERPRISE CITY DEVELOPMENT Co., Ltd	56,418	21,740	34,678	45,543	6,957
Daesung Steel	176,458	99,112	77,346	113,706	11,868
PCC Amberstone Private Equity Fund 1	105,169	—	105,169	11,910	11,110
POSCO MITSUBISHI CARBON TECHNOLOGY	470,330	185,622	284,708	172,441	28,699
[Foreign]					
South-East Asia Gas Pipeline Company Ltd.	1,604,624	651,751	952,873	439,974	192,322
AES-VCM Mong Duong Power Company Limited	1,677,096	1,084,900	592,196	366,205	119,863
9404-5515 Quebec Inc.	1,317,335	3	1,317,332	—	173,763
FQM Australia Holdings Pty Ltd	1,348,138	1,021,630	326,508	243,611	(64,143)
KOREA LNG LTD.	157,060	357	156,703	47,843	45,724
Nickel Mining Company SAS	475,751	307,570	168,181	328,570	31,688
ZHEJIANG HUAYOU-POSCO ESM CO., LTD	129,618	72,965	56,653	28,488	(4,680)
Zhongyue POSCO (Qinhuangdao) Tinplate Industrial Co., Ltd	92,850	31,260	61,590	174,511	5,193
PT. Wampu Electric Power	209,172	132,917	76,255	20,288	6,946
POSCO SeAH Steel Wire(Nantong) Co., Ltd.	89,809	54,517	35,292	117,461	2,595
Roy Hill Holdings Pty Ltd	9,165,759	2,227,659	6,938,100	8,839,084	3,740,696
POSCO-NPS Niobium LLC	787,383	—	787,383	—	52,451
KOBRASCO	194,022	57,430	136,592	165,224	104,507
BX STEEL POSCO Cold Rolled Sheet Co., Ltd.	727,958	324,222	403,736	2,044,978	25,165
DMSA/AMSA	3,631,856	2,068,847	1,563,009	749,634	636,113
CSP - Companhia Siderurgica do Pecem	3,777,391	3,542,398	234,993	2,570,010	653,370
HBIS-POSCO Automotive Steel Co., Ltd	502,645	261,765	240,880	482,696	3,272

(f) Changes in accumulated losses of equity-accounted investees that were not recognized since the Company discontinued the use of the equity method for the year ended December 31, 2022 were as follows:

(in millions of Won)

Company	Beginning balance	Increase or decrease	Ending balance
New Songdo International City Development, LLC	₩199,483	(64,988)	134,495
UITrans LRT Co., Ltd.	40,103	3,769	43,872
Clean Iksan Co., Ltd.	797	(94)	703
HYOCHUN Co., Ltd.	3,837	559	4,396
KIRIN VIETNAM CO., LTD	100	3	103
INKOTECH, INC.	612	(72)	540
POSCO-Poggenamp Electrical Steel Pvt. Ltd.	301	256	557
Gunggi Green Energy	448	3,848	4,296
Link City PFV Inc.	—	5,452	5,452
Noeul Green Energy Co., Ltd.	—	1,886	1,886
Pohang E&E Co., Ltd.	—	6,391	6,391
	<u>₩245,681</u>	<u>(42,990)</u>	<u>202,691</u>



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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, 2022 are as follows:

<u>Joint operations</u>	<u>Operation</u>	<u>Ownership (%)</u>	<u>Location</u>
Myanmar A-1/A-3 mine	Mine development and gas production	51.00	Myanmar
Offshore midstream	Gas transportation facility	51.00	Myanmar
Greenhills mine	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	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
Yansan Sasong 2nd Apartment Project			
(B5,6,7,9 Block) Construction work	Construction	49.00	Korea
Yongmun 1, 2, 3 District Housing			
Reconstruction Maintenance Project	Construction	70.00	Korea
Songdo B5 Block officetel 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



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13. Investment Property, Net

(a) Investment property as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

	2022			2021		
	Acquisition cost	Accumulated depreciation and impairment loss	Book value	Acquisition cost	Accumulated depreciation and impairment loss	Book value
Land	₩ 325,241	(16,718)	308,523	349,026	(16,718)	332,308
Buildings	825,183	(231,678)	593,505	803,156	(218,607)	584,549
Structures	3,569	(2,213)	1,356	3,213	(2,460)	753
Right of use assets	206,166	(35,519)	170,647	196,344	(27,877)	168,467
	<u>₩ 1,360,159</u>	<u>(286,128)</u>	<u>1,074,031</u>	<u>1,351,739</u>	<u>(265,662)</u>	<u>1,086,077</u>

As of December 31, 2022, the fair value of investment property is ₩3,255,898 million.

(b) Changes in the carrying amount of investment property for the years ended December 31, 2022 and 2021 were as follows:

1) 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
	<u>₩1,086,077</u>	<u>1,661</u>	<u>(24,106)</u>	<u>(36,021)</u>	<u>46,420</u>	<u>1,074,031</u>

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

2) For the year ended December 31, 2021

(in millions of Won)	Beginning	Acquisitions	Disposals	Depreciation	Others(*1)	Ending
Land	₩279,397	83,497	(1,092)	—	(29,494)	332,308
Buildings	559,584	11,378	(2,264)	(21,362)	37,213	584,549
Structures	1,199	—	—	(598)	152	753
Right of use assets	154,601	—	—	(4,364)	18,230	168,467
	<u>₩994,781</u>	<u>94,875</u>	<u>(3,356)</u>	<u>(26,324)</u>	<u>26,101</u>	<u>1,086,077</u>

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



POSCO HOLDINGS INC. and Subsidiaries
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14. Property, Plant and Equipment, Net

(a) Property, plant and equipment as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

	2022				2021			
	Acquisition cost	Accumulated depreciation and impairment loss	Government grants	Book value	Acquisition cost	Accumulated depreciation and impairment loss	Government grants	Book value
Land	₩ 3,103,218	(53)	—	3,103,165	2,702,768	(53)	—	2,702,715
Buildings	10,102,634	(5,922,285)	(5,455)	4,174,894	9,802,539	(5,592,600)	(5,489)	4,204,450
Structures	6,989,634	(3,826,658)	(49)	3,162,927	6,683,546	(3,551,692)	(59)	3,131,795
Machinery and equipment	52,198,121	(35,767,810)	(7,481)	16,422,830	50,090,721	(33,663,244)	(7,321)	16,420,156
Vehicles	337,932	(284,897)	(904)	52,131	324,073	(277,437)	(606)	46,030
Tools	497,173	(405,844)	(368)	90,961	453,297	(375,212)	(290)	77,795
Furniture and fixtures	796,405	(622,944)	(116)	173,345	752,314	(585,881)	(271)	166,162
Lease assets	1,299,779	(378,581)	—	921,198	1,288,639	(420,893)	—	867,746
Bearer plants	180,486	(38,766)	—	141,720	185,234	(30,552)	—	154,682
Construction-in-progress	3,621,269	(73,266)	(9,978)	3,538,025	1,961,033	(125,620)	(10,246)	1,825,167
	<u>₩79,126,651</u>	<u>(47,321,104)</u>	<u>(24,351)</u>	<u>31,781,196</u>	<u>74,244,164</u>	<u>(44,623,184)</u>	<u>(24,282)</u>	<u>29,596,698</u>

(b) Changes in the carrying amount of property, plant and equipment for the years ended December 31, 2022 and 2021 were as follows:

1) 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)	(2,235,874)	3,538,025
	<u>₩29,596,698</u>	<u>5,110,373</u>	<u>534,101</u>	<u>(72,780)</u>	<u>(3,168,721)</u>	<u>(213,183)</u>	<u>(5,292)</u>	<u>31,781,196</u>

(*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 the flooding of Naengcheon stream in Pohang at the net fair value, and recognized an impairment loss of ₩207,072 million since recoverable amounts are less than their carrying amounts.



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2) For the year ended December 31, 2021

<i>(in millions of Won)</i>	<u>Beginning</u>	<u>Acquisitions</u>	<u>Disposals</u>	<u>Depreciation</u>	<u>Impairment loss(*1,2,3)</u>	<u>Others(*4)</u>	<u>Ending</u>
Land	₩ 2,590,087	66,015	(117)	—	5,670	41,060	2,702,715
Buildings	4,161,400	22,559	(4,001)	(316,999)	(32,863)	374,354	4,204,450
Structures	3,025,226	15,728	(15,727)	(233,370)	(4,900)	344,838	3,131,795
Machinery and equipment	16,857,307	206,564	(31,769)	(2,283,704)	(77,173)	1,748,931	16,420,156
Vehicles	37,156	14,896	(832)	(15,242)	(58)	10,110	46,030
Tools	60,301	21,802	(782)	(30,864)	(69)	27,407	77,795
Furniture and fixtures	127,459	28,178	(1,630)	(47,135)	(667)	59,957	166,162
Lease assets	773,700	224,667	(8,320)	(172,443)	(1,547)	51,689	867,746
Bearer plants	149,965	—	(24,876)	(9,264)	—	38,857	154,682
Construction-in-progress	1,617,540	2,838,175	(10,789)	—	(190,556)	(2,429,203)	1,825,167
	<u>₩29,400,141</u>	<u>3,438,584</u>	<u>(98,843)</u>	<u>(3,109,021)</u>	<u>(302,163)</u>	<u>268,000</u>	<u>29,596,698</u>

- (*1) The Company estimated the recoverable amount of individual assets that it ceased their use due to the disposal plan and others at fair value less costs to sell based on sale price or scrap value and recognized an impairment loss since recoverable amounts are less than their carrying amounts for the year ended December 31, 2021. During the year ended December 31, 2021, the Company recognized impairment losses on damaged assets caused by the fire accident.
- (*2) The Company decided to stop the intended use for Synthetic Natural Gas (SNG) facility and sell the related assets. The Company estimated the recoverable amount based on expected sale price and recognized ₩217,564 million of impairment loss in 2021. The remaining balances were classified as assets held for sale as of December 31, 2021.
- (*3) During the year ended December 31, 2021, evidence of impairment has occurred due to changes in the quality of bituminous coal and changes in production plans at Narrabri Coal Mine where POSCO INTERNATIONAL AUSTRALIA HOLDINGS PTY. LTD, a subsidiary of the Company, participates as a non-operating party. The Company recognized an impairment loss of ₩27,672 million since recoverable amounts are less than their carrying amounts.
- (*4) 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.
- (c) Borrowing costs capitalized and the capitalized interest rate for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Weighted average expenditure	₩ 1,657,425	1,230,145
Borrowing costs capitalized	44,264	31,295
Capitalization rate (%)	2.39 ~ 3.85	2.25 ~ 3.16



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(d) Property, plant and equipment and investment property pledged as collateral as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	Collateral right holder	Book value	
		2022	2021
Land	Korean Development Bank and others	₩1,161,696	933,560
Buildings and structures	Korean Development Bank and others	1,449,066	1,598,040
Machinery and equipment	Korean Development Bank and others	2,123,621	2,286,656
		<u>₩4,734,383</u>	<u>4,818,256</u>

As of December 31, 2022, assets pledged as collateral related to the Company's borrowings and others amounting to ₩6,012,568 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, 2022 and 2021 were as follows:

1) For the year ended December 31, 2022

<i>(in millions of Won)</i>	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
	<u>₩1,036,213</u>	<u>184,260</u>	<u>193,572</u>	<u>(175,410)</u>	<u>(146,789)</u>	<u>1,091,846</u>

(*1) Represents increases in right-in-use assets upon acquisition of Senex Energy Limited during the year ended December 31, 2022.

2) For the year ended December 31, 2021

<i>(in millions of Won)</i>	Beginning	Acquisitions	Depreciation	Others	Ending
Land	₩371,719	14,161	(14,191)	19,757	391,446
Buildings and structures	171,760	30,912	(61,261)	2,443	143,854
Machinery and equipment	239,181	13,543	(41,721)	45,202	256,205
Vehicles	11,456	12,159	(8,657)	(205)	14,753
Ships	106,555	120,217	(16,716)	—	210,056
others	27,630	33,675	(34,261)	(7,145)	19,899
	<u>₩928,301</u>	<u>224,667</u>	<u>(176,807)</u>	<u>60,052</u>	<u>1,036,213</u>

(f) The amount recognized in profit or loss related to leases for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	2022	2021
Interest on lease liabilities	₩34,936	32,331
Expenses related to short-term leases	29,931	20,885
Expenses related to leases of low-value assets	17,877	18,577
	<u>₩82,744</u>	<u>71,793</u>



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15. Goodwill and Other Intangible Assets, Net

(a) Goodwill and other intangible assets as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	2022				2021			
	Acquisition cost	Accumulated amortization and impairment loss	Government grants	Book value	Acquisition cost	Accumulated amortization and impairment loss	Government grants	Book value
Goodwill	₩ 1,723,974	(1,281,487)	—	442,487	1,648,119	(912,150)	—	735,969
Intellectual property rights	4,944,973	(1,808,901)	—	3,136,072	3,987,689	(1,761,881)	—	2,225,808
Membership	135,905	(2,963)	—	132,942	146,043	(3,673)	—	142,370
Development expense	687,437	(571,266)	—	116,171	656,712	(502,739)	—	153,973
Port facilities usage rights	681,530	(484,319)	—	197,211	685,540	(469,519)	—	216,021
Exploration and evaluation assets	260,548	(159,557)	—	100,991	280,092	(218,135)	—	61,957
Development assets	78,970	—	—	78,970	—	—	—	—
Customer relationships	865,691	(624,380)	—	241,311	865,622	(579,902)	—	285,720
Other intangible assets	1,175,409	(783,088)	(25)	392,296	1,098,320	(753,790)	(39)	344,491
	<u>₩ 10,554,437</u>	<u>(5,715,961)</u>	<u>(25)</u>	<u>4,838,451</u>	<u>9,368,137</u>	<u>(5,201,789)</u>	<u>(39)</u>	<u>4,166,309</u>

(b) The changes in carrying amount of goodwill and other intangible assets for the years ended December 31, 2022 and 2021 were as follows:

1) For the year ended December 31, 2022

<i>(in millions of Won)</i>	Beginning	Acquisitions	Business Combination (*3,4)	Disposals	Amortization	Impairment loss	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
Exploration 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
	<u>₩4,166,309</u>	<u>495,787</u>	<u>1,103,683</u>	<u>(2,822)</u>	<u>(488,835)</u>	<u>(369,382)</u>	<u>(66,289)</u>	<u>4,838,451</u>

(*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) 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 (formerly, TERA TECHNOS CO., Ltd.) during the year ended December 31, 2022. 2) For the year ended December 31, 2021

<i>(in millions of Won)</i>	Beginning	Acquisitions	Disposals	Amortization	Impairment loss(*2,4,5)	Others(*3)	Ending
Goodwill	₩ 903,893	17,804	—	—	(189,167)	3,439	735,969
Intellectual property rights	2,170,738	281,544	(574)	(271,931)	(20,005)	66,036	2,225,808
Membership(*1)	138,703	7,457	(4,198)	(137)	145	400	142,370
Development expense	227,111	11,301	—	(72,294)	(4,027)	(8,118)	153,973
Port facilities usage rights	236,272	—	—	(20,581)	—	330	216,021
Exploration and evaluation assets	57,140	3,649	—	—	(374)	1,542	61,957
Customer relationships	330,247	—	—	(44,478)	—	(49)	285,720
Other intangible assets	385,328	68,253	(14,818)	(34,679)	(10,032)	(49,561)	344,491
	<u>₩4,449,432</u>	<u>390,008</u>	<u>(19,590)</u>	<u>(444,100)</u>	<u>(223,460)</u>	<u>14,019</u>	<u>4,166,309</u>

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

(*2) During the year ended December 31, 2021, the Company decided to sell a portion of paid-in emission rights and recognized ₩7,180 million of impairment loss since book value exceeded fair value less costs to sell.



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- (*3) 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.
 - (*4) During the year ended December 31, 2021, impairment indicators were noted due to changes in the quality of bituminous coal and changes in production plans at Narrabri Coal Mine where POSCO INTERNATIONAL AUSTRALIA HOLDINGS PTY. LTD, a subsidiary of the Company, participates as a non-operating party. The Company recognized an impairment loss of ₩20,006 million since recoverable amounts are less than their carrying amounts.
 - (*5) During the year ended December 31, 2021, impairment loss of ₩184,770 million on goodwill of POSCO INTERNATIONAL Corporation, a subsidiary included in trading segment, 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, 2022 and 2021 are as follows:

(in millions of Won)

Reportable segments	Total number of CGUs		CGUs	2022	2021
	2022	2021			
Steel	10	7	POSCO VST CO., LTD.	₩ 36,955	36,955
			POSCO Center Beijing(*2)	173	178
			Others	13,741	12,542
Green					
infrastructure(*3) Trading	3	3	POSCO INTERNATIONAL Corporation(*1)	240,092	578,046
			GRAIN TERMINAL HOLDING PTE. LTD.	—	21,516
			PT. Bio Inti Agrindo	7,270	7,468
E&C	2	2	POSCO ENGINEERING & CONSTRUCTION CO., LTD.	24,868	24,868
			POSCO O&M Co., Ltd	35,728	—
Energy,etc(*3)	2	—	POSCO ENERGY CO., LTD.	26,471	26,471
			Shinan Green Energy Co Ltd	17,804	17,804
Green					
Materials(*3)	3	—	POSCO CHEMICAL CO., LTD	8,800	8,800
			Posco Silicon Solution Co., Ltd	30,477	—
			Zhangjiagang Pohang Refractories Co., Ltd.	108	108
Others(*3)	—	5	Others	—	1,213
	<u>20</u>	<u>17</u>		<u>₩442,487</u>	<u>735,969</u>

- (*1) The recoverable amount of POSCO INTERNATIONAL Corporation, a subsidiary in trading segment of the green infrastructure business, is determined based on its value in use. As of December 31, 2022, the value in use is estimated by applying an 8.97% (2021: 8.14%) post-tax discount rate to the future cash flows estimated based on management's 5-year business plan and terminal growth rate of 1.7% (2021: 2.0%) thereafter. The terminal growth rate does not exceed long-term growth rate of its industry. During the year ended December 31, 2022, impairment loss on goodwill of ₩337,953 million was recognized as the recoverable amount is less than 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 with applying pre-tax discount rate of 11.54% (2021: 10.56%) 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 ₩193,420 million or 5.79%. If the terminal growth rate decreases by 0.5%, the-value in use would have decreased by ₩131,208 million or 3.93%.

- (*2) During the year ended December 31, 2022, the entity was changed from the construction segment to the steel segment.
- (*3) As a result of the reorganization of business segments during the year ended December 31, 2022, the others segment from the previous year was subdivided into energy and others segment and green materials and energy segment. In addition, trading, construction and energy and others segments were presented under the green infrastructure business.



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16. Other Assets

Other current assets and other non-current assets as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	2022	2021
Current		
Advance payments	₩ 782,439	564,196
Prepaid expenses	263,536	274,023
Firm commitment asset	9,674	11,323
Others	20,290	65,816
	<u>₩1,075,939</u>	<u>915,358</u>
Non-current		
Long-term advance payments	₩ 23,429	47,752
Long-term prepaid expenses	53,803	76,739
Others(*1)	90,143	74,116
	<u>₩ 167,375</u>	<u>198,607</u>

(*1) As of December 31, 2022 and December 31, 2021, the Company recognized tax assets amounting to ₩6,764 million and ₩4,772 million, respectively, 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, 2022 and 2021 are as follows:

(in millions of Won)

	Lenders	Issuance date	Maturity date	Interest rate (%)	2022	2021
Short-term borrowings						
Bank overdrafts	JP Morgan and others	March, 2022~ December, 2022	January, 2023~December, 2023	1.20 ~ 7.38	₩ 197,718	118,558
Short-term borrowings	HSBC and others	January, 2022~ December, 2022	January, 2023~ December, 2023	0.22 ~ 18.20	6,635,402	4,991,866
					<u>6,833,120</u>	<u>5,110,424</u>
Current portion of long-term liabilities						
Current portion of long-term borrowings	Export-Import Bank of Korea and others	November, 2004~ October, 2022	February, 2023~ December, 2023	0.75 ~ 16.50	2,302,592	992,154
Current portion of debentures	Merrill lynch and others	October, 2013~ September, 2021	January, 2023~ October, 2023	1.44 ~ 5.99	2,782,049	2,731,321
Less: Current portion of discount on debentures issued					(1,767)	(3,832)
					<u>5,082,874</u>	<u>3,719,643</u>
					<u>₩11,915,994</u>	<u>8,830,067</u>

(b) Long-term borrowings, excluding current portion as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

	Lenders	Issuance date	Maturity date	Interest rate (%)	2022	2021
Long-term borrowings	Export-Import Bank of Korea and others	September, 2001~ November, 2022	July, 2024~ March, 2040	0.19 ~ 8.50	₩ 2,718,212	3,841,375
Less: Present value discount Bonds	KB Securities co., Ltd. and others	July, 2015~ October, 2022	January, 2024~ May, 2032	0.50 ~ 4.60	(8,951)	(12,530)
Less: Discount on debentures issued					8,351,006	7,671,755
Exchangeable bonds(*1)	Foreign currency exchangeable bonds	September, 2021	September, 2026		(28,893)	(24,644)
					<u>1,358,294</u>	<u>1,435,193</u>
					<u>₩12,389,668</u>	<u>12,911,149</u>



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(*1) The issuance conditions of the exchangeable bonds issued by the Company are as follows:

Foreign currency exchangeable bonds	
Type of bond	Exchangeable bonds
Aggregate principal amount	EUR 1,065,900,000
Interest rate	- Coupon rate: - - Yield to Maturity: (0.78%)
Maturity date	September 1, 2026
Redemption	1) Redemption at Maturity : Outstanding bond principal, which is not repaid early or which call option is not exercised on, is repaid at maturity as a lump sum
Exchange rate	2) Prepayment : The issuer has call option and the bondholders have put option 100%
Exchange price (Won/share)	463,438(*)
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.

(*) The exchange value has changed due to cash dividends during the year ended December 31, 2022.

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, 2022 are as follows:

<i>(in millions of Won)</i>	<u>Lenders</u>	<u>Book value</u>	<u>Pledged amount</u>
Property, plant and equipment and Investment property	Korea Development Bank and others	₩4,666,691	6,044,317
Trade accounts and notes receivable	Korea Development Bank and others	215,133	215,133
Financial instruments	Woori Bank and others	16,923	16,924
		<u>₩4,898,747</u>	<u>6,276,374</u>



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18. Other Payables

Other payables as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Current		
Accounts payable	₩1,423,402	1,034,823
Accrued expenses	981,609	835,226
Dividend payable	4,371	4,046
Lease liabilities	149,384	181,774
Withholdings	307,102	133,492
	<u>₩2,865,868</u>	<u>2,189,361</u>
Non-current		
Accounts payable	₩ 15,713	17,312
Accrued expenses	8,102	8,760
Lease liabilities	674,098	596,240
Long-term withholdings	92,489	56,697
	<u>₩ 790,402</u>	<u>679,009</u>

19. Other Financial Liabilities

Other financial liabilities as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Current		
Derivative liabilities	₩ 95,157	91,739
Financial guarantee liabilities	11,370	19,902
	<u>₩106,527</u>	<u>111,641</u>
Non-current		
Derivative liabilities	₩ 79,984	18,300
Financial guarantee liabilities	7,068	5,696
	<u>₩ 87,052</u>	<u>23,996</u>



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20. Provisions

(a) Provisions as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

	2022		2021	
	Current	Non-current	Current	Non-current
Provision for bonus payments	₩136,275	33,157	93,502	45,031
Provision for construction warranties	35,702	170,272	14,519	222,141
Provision for legal contingencies and claims(*1)	46,823	59,518	24,441	69,050
Provision for the restoration(*2,3)	6,049	185,097	5,918	153,613
Others(*4,5,6)	291,139	131,874	261,604	99,257
	<u>₩515,988</u>	<u>579,918</u>	<u>399,984</u>	<u>589,092</u>

- (*1) The Company recognized probable outflow of resources amounting to ₩52,530 million and ₩61,911 million as provisions for legal contingencies and asserted claim in relation to lawsuits against the Company as of December 31, 2022 and 2021, 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 ₩22,041 million as provisions for restoration as of December 31, 2022. 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 5.02%~5.10% to measure present value of these costs.
- (*3) Due to contamination of river water quality near Greenhills mine which POSCO CANADA LTD. owns, the Company recognized present values of estimated costs for recovery amounting to ₩52,008 million as provisions for improvement as of December 31, 2022.
- (*4) As of December 31, 2022 and 2021, POSCO ENERGY CO., LTD., and Korea Fuel Cell, recognized ₩97,928 million and ₩80,727 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, 2022 and 2021, the Company has recognized emission liabilities amounting to ₩14,178 million and ₩84,364 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 Energy Co., Ltd. is obliged to supply a certain amount of power generated by new and renewable energy. In accordance with the Act, POSCO Energy Co., Ltd. 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, 2022 and 2021, the Company recognized ₩123,073 million and ₩100,551 million, respectively, as provision liabilities.



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

	<u>Key assumptions for the estimation</u>
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, 2022 and 2021 were as follows:

1) For the year ended December 31, 2022

<i>(in millions of Won)</i>	<u>Beginning</u>	<u>Increase</u>	<u>Utilization</u>	<u>Reversal</u>	<u>Others(*1)</u>	<u>Ending</u>
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
	<u>₩989,076</u>	<u>639,210</u>	<u>(491,273)</u>	<u>(84,791)</u>	<u>43,684</u>	<u>1,095,906</u>

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

2) For the year ended December 31, 2021

<i>(in millions of Won)</i>	<u>Beginning</u>	<u>Increase</u>	<u>Utilization</u>	<u>Reversal</u>	<u>Others(*1)</u>	<u>Ending</u>
Provision for bonus payments	₩121,951	160,893	(138,003)	(4,989)	(1,319)	138,533
Provision for construction warranties	227,097	79,518	(67,196)	(3,080)	321	236,660
Provision for legal contingencies and claims	87,450	66,395	(28,400)	(32,731)	777	93,491
Provision for the restoration	139,745	29,456	(7,646)	(11,129)	9,105	159,531
Others	389,999	291,284	(185,066)	(119,633)	(15,723)	360,861
	<u>₩966,242</u>	<u>627,546</u>	<u>(426,311)</u>	<u>(171,562)</u>	<u>(6,839)</u>	<u>989,076</u>

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



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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, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Expense related to post-employment benefit plans under defined contribution plans	₩62,467	54,527

(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, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Present value of funded obligations	₩ 2,200,127	2,401,261
Fair value of plan assets(*1)	(2,703,639)	(2,620,046)
Present value of non-funded obligations	20,560	13,770
Net defined benefit liabilities	₩ (482,952)	(205,015)

(*1) As of December 31, 2022 and 2021, the Company recognized net defined benefit assets amounting to ₩520,659 million and ₩255,858 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, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Defined benefit obligations at the beginning of period	₩2,415,031	2,453,353
Current service costs	235,007	243,029
Interest costs	71,348	52,118
Remeasurements :	(192,339)	(78,888)
- Loss (gain) from change in financial assumptions	(381,800)	(159,154)
- Loss (gain) from change in demographic assumptions	(621)	1,512
- Loss (gain) from change in others	190,082	78,754
Benefits paid	(300,353)	(253,208)
Others	(8,007)	(1,373)
Defined benefit obligations at the end of period	₩2,220,687	2,415,031



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3) Changes in fair value of plan assets for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Fair value of plan assets at the beginning of period	₩ 2,620,046	2,397,717
Interest on plan assets	77,745	51,580
Remeasurement of plan assets	(57,335)	(9,529)
Contributions to plan assets	346,773	417,486
Benefits paid	(287,312)	(230,938)
Others	3,722	(6,270)
Fair value of plan assets at the end of period	<u>₩ 2,703,639</u>	<u>2,620,046</u>

The Company expects to make an estimated contribution of ₩346,757 million to the defined benefit plan assets in 2023.

4) The fair value of plan assets as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Equity instruments	₩ 5,949	23,980
Debt instruments	758,250	811,498
Deposits	1,813,863	1,724,245
Others	125,577	60,323
	<u>₩ 2,703,639</u>	<u>2,620,046</u>

5) The amounts recognized in consolidated statement of comprehensive income for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Current service costs	₩235,007	243,029
Net interest costs(*1)	(6,397)	538
	<u>₩228,610</u>	<u>243,567</u>

(*1) The actual return on plan assets amounted to ₩20,410 million and ₩42,051 million for the years ended December 31, 2022 and 2021, respectively.

The above expenses by function were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Cost of sales	₩156,576	166,734
Selling and administrative expenses	71,060	76,265
Others	974	568
	<u>₩228,610</u>	<u>243,567</u>



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- 6) Accumulated actuarial gains (losses), net of tax recognized in other comprehensive income for the years ended December 31, 2022 and 2021 were as follows:

(in millions of Won)	2022	2021
Beginning	₩(502,065)	(553,220)
Remeasurements of defined benefit plans	105,769	51,155
Ending	₩(396,296)	(502,065)

- 7) The principal actuarial assumptions as of December 31, 2022 and 2021 are as follows:

(%)	2022	2021
Discount rate	2.00 ~ 7.60	1.25 ~ 7.84
Expected future increase in salaries(*1)	1.50 ~ 12.20	1.50 ~ 11.50

- (*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% Decrease	
	Amount	Percentage(%)	Amount	Percentage(%)
Discount rate	₩(129,873)	(5.8)	146,641	6.6
Expected future increase in salaries	146,953	6.6	(132,348)	(6.0)

- 9) As of December 31, 2022 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	₩328,477	832,597	650,418	1,087,836	421,889	3,321,217

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, 2022 and 2021 are as follows:

(in millions of Won)	2022	2021
Current		
Due to customers for contract work	₩ 761,393	995,311
Advances received	535,885	475,800
Unearned revenue	62,030	106,574
Withholdings	369,067	340,107
Firm commitment liability	7,566	11,852
Others(*1)	24,375	14,844
	₩1,760,316	1,944,488
Non-current		
Unearned revenue	₩ 22,203	27,908
Others(*1)	129,674	28,583
	₩ 151,877	56,491

- (*1) As of December 31, 2022, the Company recognized the acquired liability amounted to ₩71,248 million related to unfavorable terms of a customer contract relative to market-terms upon the acquisition of Senex Energy Limited.



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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, 2022 and 2021 are as follows:

① December 31, 2022

(in millions of Won)

	Book value	Fair value			Total
		Level 1	Level 2	Level 3	
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	—	—	—	—
	<u>₩32,170,739</u>	<u>1,239,811</u>	<u>8,437,024</u>	<u>861,674</u>	<u>10,538,509</u>
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	—	—	—	—
	<u>₩32,809,257</u>	<u>1,358,294</u>	<u>22,506,912</u>	<u>—</u>	<u>23,865,206</u>

(*1) Fair value of financial assets and liabilities measured at amortized cost excluding borrowings for which the carrying amounts is a reasonable approximation of their fair value.

(*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.



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② December 31, 2021

(in millions of Won)

	Book value	Fair value			Total
		Level 1	Level 2	Level 3	
Financial assets					
Fair value through profit or loss					
Derivative assets	₩ 241,541	—	241,541	—	241,541
Short-term financial instruments	10,514,093	—	10,514,093	—	10,514,093
Debt securities	10,717	—	—	10,717	10,717
Other securities	430,998	37,343	1,022	392,633	430,998
Other receivables	2,000	—	—	2,000	2,000
Derivative hedging instruments	7,555	—	7,555	—	7,555
Fair value through other comprehensive income					
Equity securities	1,466,061	1,250,497	—	215,564	1,466,061
Financial assets measured at amortized cost(*1)					
Cash and Cash Equivalents	4,775,166	—	—	—	—
Trade accounts and notes receivable	9,051,708	—	—	—	—
Other receivables	2,761,566	—	—	—	—
Debt securities	151,146	—	—	—	—
Deposit instruments	2,745,280	—	—	—	—
	<u>₩32,157,831</u>	<u>1,287,840</u>	<u>10,764,211</u>	<u>620,914</u>	<u>12,672,965</u>
Financial liabilities					
Fair value through profit or loss					
Derivative liabilities	₩ 93,236	—	93,236	—	93,236
Borrowings	1,435,193	1,435,193	—	—	1,435,193
Derivative hedging instruments	16,803	—	16,803	—	16,803
Financial liabilities measured at amortized cost(*1)					
Trade accounts and notes payable	5,468,869	—	—	—	—
Borrowings	20,306,023	—	20,393,246	—	20,393,246
Financial guarantee liabilities	25,598	—	—	—	—
Others	2,693,163	—	—	—	—
	<u>₩30,038,885</u>	<u>1,435,193</u>	<u>20,503,285</u>	<u>—</u>	<u>21,938,478</u>

(*1) Fair value of financial assets and liabilities measured at amortized cost excluding borrowings for which the carrying amounts is a reasonable approximation of their fair value.

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 market approach method and 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 and financial liabilities classified as fair value hierarchy Level 3



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- ① Value measurement method and significant but not observable inputs for the financial assets classified as fair value hierarchy Level 3 as of December 31, 2022 are as follows:

(in millions of Won)

	Fair value	Valuation technique	Inputs	Range of inputs	Effect on fair value assessment with unobservable input
Financial assets at fair value	₩ 78,759	Discounted cash flows	Growth rate	0% ~ 1%	As growth rate increases, fair value increases
	49,687	Proxy firm valuation method	Discount rate	4.97% ~ 14.89%	As discount rate increases, fair value decreases
	733,228	Asset value approach	Price multiples	1.0096	As price multiples increases, fair value increases
			—	—	—

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

If other inputs remain constant as of December 31, 2022 and one of the significant but not observable input is changed, the effect on fair value measurement is as follows:

(in millions of Won)

	Input variable	Favorable changes	Unfavorable changes
Financial assets at fair value	Fluctuation 0.5% of growth rate	₩ 237	(214)
	Fluctuation 0.5% of discount rate	20,437	(18,667)

- ③ Changes in fair value of financial assets and financial liabilities classified as Level 3 for the years ended December 31, 2022 and 2021 were as follows:

(in millions of Won)

	2022	2021
Beginning	₩620,914	731,735
Acquisition	182,217	138,473
Gain (loss) on valuations of financial assets	24,613	5,292
Other comprehensive income (loss)	126,510	1,581
Disposal and others	(92,580)	(256,167)
Ending	₩861,674	620,914



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4) Finance income and costs by category of financial instrument for the years ended December 31, 2022 and 2021 were as follows:

① For the year ended December 31, 2022

(in millions of Won)

	Finance income and costs						Other comprehensive income (loss)
	Interest income (expense)	Gain and loss on valuation	Gain and loss on foreign currency	Gain and loss on disposal	Others	Total	
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	—	—	—	—	38,837	38,837	(10,076)
Financial assets measured at 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	—	(162,649)	—	(647,418)	—	(810,067)	1,023
Financial liabilities measured at amortized cost	(607,458)	—	(893,377)	—	1,443	(1,499,392)	—
	<u>₩ (360,453)</u>	<u>(444,390)</u>	<u>(487,324)</u>	<u>323,320</u>	<u>(1,608)</u>	<u>(970,455)</u>	<u>(9,053)</u>

② For the year ended December 31, 2021

(in millions of Won)

	Finance income and costs						Other comprehensive income (loss)
	Interest income (expense)	Gain and loss on valuation	Gain and loss on foreign currency	Gain and loss on disposal	Others	Total	
Financial assets at fair value through profit or loss	₩ 158,121	(12,093)	—	12,119	26,170	184,317	—
Derivative assets	—	213,724	—	370,547	—	584,271	—
Financial assets at fair value through other comprehensive income	—	—	—	—	48,281	48,281	214,888
Financial assets measured at amortized cost	134,122	—	651,435	(17,769)	(7,149)	760,639	—
Financial liabilities at fair value	—	54,057	33,069	—	(15,876)	71,250	—
Derivative liabilities	—	55,858	—	(465,174)	—	(409,316)	309
Financial liabilities measured at amortized cost	(439,826)	—	(846,202)	(16)	11,537	(1,274,507)	—
	<u>₩ (147,583)</u>	<u>311,546</u>	<u>(161,698)</u>	<u>(100,293)</u>	<u>62,963</u>	<u>(35,065)</u>	<u>215,197</u>



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(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, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Cash and cash equivalents	₩ 8,053,108	4,775,166
Derivative assets	359,995	249,096
Short-term financial instrument	8,006,082	10,514,093
Debt securities	200,023	161,863
Other securities	632,469	430,998
Other receivables	2,460,227	2,763,566
Trade accounts and notes receivable	9,822,224	9,051,708
Deposit instruments	2,581,802	2,745,280
	<u>₩32,115,930</u>	<u>30,691,770</u>

The Company provided financial guarantee for the repayment of loans of associates, joint ventures and third parties. As of December 31, 2022 and 2021, the maximum exposure to credit risk related to the financial guarantee amounted to ₩3,982,288 million and ₩4,122,774 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 credit-impaired 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, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Trade accounts and notes receivable	₩378,100	365,120
Other accounts receivable	178,264	171,273
Loans	165,051	172,162
Others	9,098	8,810
	<u>₩730,513</u>	<u>717,365</u>



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② Impairment losses on financial assets for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	2022	2021
Bad debt expenses	₩24,791	40,153
Other bad debt expenses(*1)	14,968	19,704
Less: Recovery of allowance for other bad debt accounts	(5,144)	(32,679)
	<u>₩34,615</u>	<u>27,178</u>

(*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, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	2022		2021	
	Trade accounts and notes receivable	Allowance for doubtful accounts	Trade accounts and notes receivable	Allowance for doubtful accounts
Not due	₩ 7,955,929	20,752	9,564,773	28,866
Over due less than 1 month	864,391	63,311	289,716	6,537
1 month - 3 months	388,151	10,337	132,509	2,821
3 months - 12 months	517,171	12,645	85,339	22,212
Over 12 months	446,045	271,055	417,970	304,684
	<u>₩10,171,687</u>	<u>378,100</u>	<u>10,490,307</u>	<u>365,120</u>

④ The aging and allowance for doubtful accounts of other receivables as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	2022		2021	
	Loans and other account receivable	Allowance for doubtful accounts	Loans and other account receivable	Allowance for doubtful accounts
Not due	₩2,049,908	53,070	2,239,492	99,661
Over due less than 1 month	141,718	2,987	33,276	373
1 month - 3 months	108,152	16,408	86,517	71
3 months - 12 months	24,912	930	289,810	12,227
Over 12 months	487,950	279,018	466,716	239,913
	<u>₩2,812,640</u>	<u>352,413</u>	<u>3,115,811</u>	<u>352,245</u>



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⑤ Changes in the allowance for doubtful accounts for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Beginning	₩ 717,365	753,693
Bad debt expenses	24,791	40,153
Other bad debt expenses (reversal)	9,824	(12,975)
Others(*1)	(21,467)	(63,506)
Ending	<u>₩ 730,513</u>	<u>717,365</u>

(*1) Others for the years ended December 31, 2022 and 2021, included decreases mainly due to write-off amounting to ₩20,855 million and ₩86,111 million, respectively.

(c) Liquidity risk

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

<i>(in millions of Won)</i>	<u>Book value</u>	<u>Contractual cash flow</u>	<u>Within 1 year</u>	<u>1 year - 5 years</u>	<u>After 5 years</u>
Trade accounts and notes payable	₩ 5,520,822	5,520,822	5,520,807	15	—
Borrowings	24,305,662	25,525,529	11,924,070	12,711,700	889,759
Financial guarantee liabilities(*1)	18,437	3,982,288	3,982,288	—	—
Lease liabilities	823,482	853,253	146,558	393,948	312,747
Other financial liabilities	2,671,022	2,671,287	2,554,837	116,450	—
	<u>₩ 33,339,425</u>	<u>38,553,179</u>	<u>24,128,560</u>	<u>13,222,113</u>	<u>1,202,506</u>

(*1) 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:

<i>(in millions of Won)</i>	<u>Within 1 year</u>	<u>1 year - 5 years</u>	<u>After 5 years</u>	<u>Total</u>
Currency forward	₩ 72,048	8,349	—	80,397
Currency swap	3,750	170	—	3,920
Others	19,359	71,465	—	90,824
	<u>₩ 95,157</u>	<u>79,984</u>	<u>—</u>	<u>175,141</u>



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(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, 2022 and 2021 are as follows:

(in millions of Won)

	2022		2021	
	Assets	Liabilities	Assets	Liabilities
USD	₩5,553,742	8,996,494	5,237,890	7,879,302
EUR	574,739	2,438,031	622,749	2,620,254
JPY	525,815	384,535	156,007	545,622
Others	1,614,928	807,876	849,744	467,053

- 2) As of December 31, 2022 and 2021, 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, 2022 and 2021 were as follows:

(in millions of Won)

	2022		2021	
	10% increase	10% decrease	10% increase	10% decrease
USD	₩(344,275)	344,275	(264,141)	264,141
EUR	(186,329)	186,329	(199,751)	199,751
JPY	14,128	(14,128)	(38,962)	38,962

(e) Interest rate risk

- 1) The carrying amount of interest-bearing financial instruments as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

	2022	2021
Fixed rate		
Financial assets	₩ 21,394,764	20,677,076
Financial liabilities	(16,932,079)	(16,092,096)
	<u>4,462,685</u>	<u>4,584,980</u>
Variable rate		
Financial liabilities	₩ (8,197,066)	(6,427,133)



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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, 2022 and 2021, 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, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	2022		2021	
	1% increase	1% decrease	1% increase	1% decrease
Variable rate financial instruments	₩(81,971)	81,971	(64,271)	64,271

24. Share Capital and Capital Surplus

(a) Share capital as of December 31, 2022 and 2021 are as follows:

<i>(Share, in Won)</i>	2022	2021
Authorized shares	200,000,000	200,000,000
Par value	₩ 5,000	5,000
Issued shares(*1)	84,571,230	87,186,835
Shared capital(*2)	₩482,403,125,000	482,403,125,000

(*1) As of December 31, 2022, total number of ADRs of 24,779,936 outstanding in overseas stock market are equivalent to 6,194,984 shares of common stock.

(*2) As of December 31, 2022, the difference between the ending balance of common stock and the aggregate par value of issued common stock is ₩59,547 million due to retirement of 11,909,395 treasury stocks.

(b) The changes in issued common stock for the years ended December 31, 2022 and 2021 were as follows:

<i>(share)</i>	2022			2021		
	Issued shares	Treasury shares	Number of outstanding shares	Issued shares	Treasury shares	Number of outstanding shares
Beginning	87,186,835	(11,561,263)	75,625,572	87,186,835	(11,171,363)	76,015,472
Acquisition of treasury shares	—	—	—	—	(389,900)	(389,900)
Disposal of treasury shares	—	223,605	223,605	—	—	—
Retirement of treasury shares	(2,615,605)	2,615,605	—	—	—	—
Ending	84,571,230	(8,722,053)	75,849,177	87,186,835	(11,561,263)	75,625,572

(c) Capital surplus as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	2022	2021
Share premium	₩ 463,825	463,825
Gain on disposal of treasury shares	806,114	796,623
Other capital surplus	130,893	127,512
	₩ 1,400,832	1,387,960



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25. Hybrid Bonds

- (a) The Company issued hybrid bonds, which are classified as equity in the consolidated financial statements. During the year ended December 31, 2022, the hybrid bonds were transferred to a new subsidiary (POSCO) which was established through a vertical spin-off. Accordingly, the ownership interests of the controlling company as of December 31, 2021 have been reclassified as non-controlling interests as of December 31, 2022. Hybrid bonds classified as equity as of December 31, 2022 and December 31, 2021 are as follows:

<i>(in millions of Won)</i>	<u>Date of issue</u>	<u>Date of maturity</u>	<u>Interest rate (%)</u>	<u>2022</u>	<u>2021</u>
Hybrid bond 1-2(*1)	2013-06-13	2043-06-13	4.60	₩200,000	200,000
Issuance cost				(616)	(616)
				<u>₩199,384</u>	<u>199,384</u>

- (*1) Details of issuance of hybrid bonds as of December 31, 2022 are as follows:

	<u>Hybrid bond 1-2</u>
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; <ul style="list-style-type: none"> • 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

The hybrid bond holder's preference in the event of liquidation is senior to the common stockholders, but subordinate to other creditors. The interest accumulated but not paid on the hybrid bonds as of December 31, 2022 amounts to ₩479 million.



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(b) POSCO ENERGY CO., LTD., a subsidiary of the Company, issued hybrid bonds, which are classified as non-controlling interests in the consolidated financial statements. Hybrid bonds as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>Date of issue</u>	<u>Date of maturity</u>	<u>Interest rate (%)</u>	<u>2022</u>	<u>2021</u>
Hybrid bond 1-4(*1)	2013-08-29	2043-08-29	5.21	₩140,000	140,000
Issuance cost				(429)	(429)
				<u>₩139,571</u>	<u>139,571</u>

(*1) Details of hybrid bonds of POSCO ENERGY CO., LTD. as of December 31, 2022 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;
	<ul style="list-style-type: none"> • 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	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

The hybrid bond holder's preference in the event of liquidation is senior to the common stockholders, but subordinate to other creditors. The interest accumulated but not paid on the hybrid bonds as of December 31, 2022 amounts to ₩639 million.



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26. Reserves

(a) Reserves as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	2022	2021
Accumulated comprehensive loss of investments in associates and joint ventures	₩(406,555)	(532,833)
Changes in fair value of equity investments at fair value through other comprehensive income	(103,843)	(153,359)
Foreign currency translation differences	60,487	7,762
Gains or losses on valuation of derivatives	(3)	(455)
Others	5,924	11,900
	<u>₩(443,990)</u>	<u>(666,985)</u>

(b) Changes in fair value of equity investments at fair value through other comprehensive income for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	2022	2021
Beginning balance	₩(153,359)	(359,283)
Changes in unrealized fair value of equity investments	37,068	201,144
Reclassification upon disposal	20,729	1,667
Others	(8,281)	3,113
Ending balance	<u>₩(103,843)</u>	<u>(153,359)</u>

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, 2022 and 2021 were as follows:

<i>(shares, in millions of Won)</i>	2022		2021	
	Number of shares	Amount	Number of shares	Amount
Beginning	11,561,263	₩2,508,294	11,171,363	₩2,391,523
Acquisition of treasury shares	—	—	389,900	116,771
Disposal of treasury shares	(223,605)	(48,513)	—	—
Retirement of treasury shares	(2,615,605)	(567,473)	—	—
Ending	<u>8,722,053</u>	<u>₩1,892,308</u>	<u>11,561,263</u>	<u>₩2,508,294</u>



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28. Share-Based Payments

During the year ended December 31, 2022, pursuant to the board of directors' resolution, the Company decided to implement the Stock Grant program, under which the Company will grant treasury shares to executives based on performance evaluation. As of December 31, 2022, detailed information of the Company's Stock Grant program is as follows:

(in Won, except share information)

	Grant	Affiliated company of the executive subject to grant	Total quantity of treasury shares to be granted	Fair value of common shares per share as of date of grant
Granted in 2022	2022-12-31	POSCO HOLDINGS INC.	15,888	₩ 276,500
		Subsidiaries	27,926	

The fair value of the treasury shares expected to be granted to the Company's executives as of the date of grant is accounted for as other administrative expenses.



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29. Revenue

(a) Disaggregation of revenue

1) Details of revenue disaggregated by types of revenue and timing of revenue recognition for the years ended December 31, 2022 and 2021 were as follows:

① For the year ended December 31, 2022

(in millions of Won)

Types of revenue	Steel	Green Infrastructure			Green materials and Energy	Others	Total
		Construction	Trading	Energy and others			
Revenue from sales of goods	₩43,508,308	—	24,824,117	84,168	2,418,796	—	70,835,389
Revenue from services	919,391	142,708	586,047	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	8,537	545,294	65,401	—	121,323	859,822
	<u>₩44,546,966</u>	<u>7,667,696</u>	<u>25,955,458</u>	<u>3,998,959</u>	<u>2,451,785</u>	<u>129,340</u>	<u>84,750,204</u>
Timing of revenue recognition							
Revenue recognized at a point in time	₩43,627,575	122,188	25,369,411	149,569	2,418,796	121,323	71,808,862
Revenue recognized over time	919,391	7,545,508	586,047	3,849,390	32,989	8,017	12,941,342
	<u>₩44,546,966</u>	<u>7,667,696</u>	<u>25,955,458</u>	<u>3,998,959</u>	<u>2,451,785</u>	<u>129,340</u>	<u>84,750,204</u>

② For the year ended December 31, 2021

(in millions of Won)

Types of revenue	Steel	Green Infrastructure			Green materials and Energy	Others	Total
		Construction	Trading	Energy and others			
Revenue from sales of goods	₩40,305,393	—	24,233,531	7,751	1,210,874	219,425	65,976,974
Revenue from services	680,513	58,807	547,369	2,027,133	3,150	102,881	3,419,853
Revenue from construction contract	—	6,337,194	—	—	27,933	34	6,365,161
Others	107,499	2,365	284,708	26,393	—	149,392	570,357
	<u>₩41,093,405</u>	<u>6,398,366</u>	<u>25,065,608</u>	<u>2,061,277</u>	<u>1,241,957</u>	<u>471,732</u>	<u>76,332,345</u>
Timing of revenue recognition							
Revenue recognized at a point in time	₩40,412,892	134,588	24,518,239	34,144	1,210,874	368,817	66,679,554
Revenue recognized over time	680,513	6,263,778	547,369	2,027,133	31,083	102,915	9,652,791
	<u>₩41,093,405</u>	<u>6,398,366</u>	<u>25,065,608</u>	<u>2,061,277</u>	<u>1,241,957</u>	<u>471,732</u>	<u>76,332,345</u>

(b) Details of contract assets and liabilities from contracts with customers as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

	2022	2021
Receivables		
Account receivables	₩8,414,946	9,051,708
Contract assets		
Due from customers for contract work	1,378,640	1,073,479
Contract liabilities		
Advance received	547,874	483,375
Due to customers for contract work	761,393	995,311
Unearned revenue	84,195	133,765



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30. Revenue – Contract Balances

(a) Details of outstanding contracts as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

	2022		2021	
	Construction segment	Others	Construction segment	Others
Accumulated cost	₩30,239,570	110,414	32,687,274	81,478
Accumulated contract profit	2,664,024	17,916	3,302,005	14,932
Accumulated contract loss	(879,882)	(5,266)	(1,227,883)	(16,904)
Accumulated contract revenue	32,023,712	123,064	34,761,396	79,506

(b) Details of due from customers for contract work and due to customers for contract work as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

	2022		2021	
	Construction segment	Others	Construction segment	Others
Due from customers for contract	₩1,321,160	86,118	1,069,343	40,739
Due to customers for contract work	(674,697)	(86,696)	(937,337)	(57,974)
	₩ 646,463	(578)	132,006	(17,235)

(c) Details of the provisions of construction loss as of December 31, 2022 and 2021 are as follows:

(in millions of Won)

	2022	2021
Construction segment	₩66,124	26,656
Others	11,342	16,229
	₩77,466	42,885

(d) Due to a number of factors causing the changes in expected costs during the year ended December 31, 2022, the estimated total contract costs have changed. Details of changes in estimated total contract costs and the impact on profit before income taxes for the year ended December 31, 2022 and future periods are as follows:

(in millions of Won)

	Changes in total contract revenue	Changes in estimated total contract costs	Changes in profit (loss) of contract		
			Net income	Future income	Total
Construction segment	₩ 1,208,274	1,622,990	(174,216)	(240,500)	(414,716)
Others	7,642	8,487	143	(988)	(845)
	₩ 1,215,916	1,631,477	(174,073)	(241,488)	(415,561)

The effect on the current and future profit is estimated based on the circumstances that have occurred from the commencement date of the contract to the end of reporting period. The estimation is evaluated for the total contract costs and expected total contract revenue as of the end of the reporting period. The estimates may change in future periods.



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(e) As of December 31, 2022, revenue expected to be recognized in the future in relation to performance obligations that have not been fulfilled (or partially fulfilled) is as follows:

<i>(in millions of Won)</i>	2023	2024	2025	After 2026	Total
Construction segment	₩7,776,220	6,229,350	2,350,083	989,551	17,345,204
Others	241,363	217	54	—	241,634
	<u>₩8,017,583</u>	<u>6,229,567</u>	<u>2,350,137</u>	<u>989,551</u>	<u>17,586,838</u>

(f) Uncertainty of estimates

1) Total contract revenues

Total contract revenues are initially measured based on contractual amount agreed upon. However, the actual contract revenues may increase due to additional work, claims and incentive payments, or decrease due to penalties in case of delayed completion caused by the Company's fault. Therefore, the measurement of contract revenues is subject to uncertainty resulting from the possibility of future events.

2) Total contract costs

Contract revenues are recognized based on the percentage-of-completion method, which is determined based on the total amount of costs incurred to date. The total contract costs are estimated based on projections of future costs, including material costs, labor costs, outsourcing costs, among other factors. There is uncertainty associated with estimating future contract costs due to a variety of internal and external factors, including market fluctuations, risks associated with business partners and past experience of project performance, among 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.



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31. Selling and Administrative Expenses

(a) Other administrative expenses

Other administrative expenses for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	2022	2021
Wages and salaries	₩1,075,873	941,824
Expenses related to post-employment benefits	84,582	142,606
Other employee benefits	230,909	207,074
Travel	39,661	18,916
Depreciation	148,639	144,037
Amortization	90,069	87,232
Communication	10,890	9,898
Electricity	9,563	7,398
Taxes and public dues	95,976	85,808
Rental	36,732	28,682
Repairs	17,343	12,604
Entertainment	13,741	10,186
Advertising	103,551	89,218
Research & development •	179,714	123,092
Service fees	225,072	187,271
Vehicles maintenance	7,102	5,336
Industry association fee	11,624	9,691
Conference	20,259	14,479
Increase (decrease) to provisions	(909)	8,936
Others	79,576	75,521
	<u>₩2,479,967</u>	<u>2,209,809</u>

(b) Selling expenses

Selling expenses for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	2022	2021
Freight and custody expenses	₩ 77,427	192,973
Operating expenses for distribution center	2,507	7,382
Sales commissions	75,012	65,404
Sales advertising	5,782	3,620
Sales promotion	19,388	6,264
Sample	2,052	2,164
Sales insurance premium	39,018	41,069
Contract cost	57,661	61,450
Others	15,635	12,749
	<u>₩294,482</u>	<u>393,075</u>



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32. Research and Development Expenditures Recognized as Expenses

Research and development expenditures recognized as expenses for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	2022	2021
Administrative expenses	₩179,714	123,092
Cost of sales	356,560	345,457
	<u>₩536,274</u>	<u>468,549</u>

33. Finance Income and Costs

Details of other finance income and costs for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	2022	2021
Finance income		
Interest income(*1)	₩ 247,005	292,243
Dividend income	39,383	74,451
Gain on foreign currency transactions	2,284,126	1,079,939
Gain on foreign currency translations	703,627	298,452
Gain on derivatives transactions	840,265	402,171
Gain on valuations of derivatives	262,723	370,780
Gain on disposals of financial assets at fair value through profit of loss	256,016	20,070
Gain on valuations of financial assets at fair value through profit or loss	98,359	101,717
Gain on valuations of financial liabilities at fair value through profit or loss	85,790	54,057
Others	16,717	36,230
	<u>₩4,834,011</u>	<u>2,730,110</u>
Finance costs		
Interest expenses	₩ 607,458	439,826
Loss on foreign currency transactions	2,505,862	985,179
Loss on foreign currency translations	969,215	554,910
Loss on derivatives transactions	690,471	496,798
Loss on valuation of derivatives	193,127	101,198
Loss on disposal of trade accounts and notes receivable	64,244	17,769
Loss on disposals of financial assets at fair value through profit or loss	18,245	7,951
Loss on valuations of financial assets at fair value through profit or loss	698,136	113,810
Others	57,708	47,735
	<u>₩5,804,466</u>	<u>2,765,176</u>

(*1) Interest income calculated using the effective interest method for the years ended December 31, 2022 and 2021 were ₩226,584 million and ₩134,122 million, respectively.



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34. Other Non-Operating Income and Expenses

Details of other non-operating income and expenses for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Other non-operating income		
Gain on disposals of assets held for sale	₩ 55,262	60,208
Gain on disposals of investment in subsidiaries, associates and joint ventures	13,904	85,981
Gain on disposals of property, plant and equipment	18,502	12,016
Gain on valuation of firm commitment	181,645	169,485
Reversal of other provisions	5,245	33,887
Compensation for insured losses(*1)	237,565	38,115
Others(*2)	79,894	178,305
	<u>₩ 592,017</u>	<u>577,997</u>
Other non-operating expenses		
Loss on disposals of investments in subsidiaries, associates and joint ventures	₩ 12,400	12,882
Loss on disposals of property, plant and equipment	111,082	95,720
Impairment loss on property, plant and equipment	213,183	311,520
Impairment loss on intangible assets	370,663	224,328
Loss on valuation of firm commitment	156,183	111,542
Idle tangible asset expenses	18,184	23,843
Increase to provisions	88,857	37,962
Donations	80,558	101,258
Others	72,575	108,438
	<u>₩1,123,685</u>	<u>1,027,493</u>

- (*1) During the year ended December 31, 2022, POSCO, a subsidiary, received insurance payments of ₩234,000 million related to damage due to the flooding of the Naengcheon stream in Pohang, and additional compensation is under discussion with the insurance company.
- (*2) During the year ended December 31, 2021, the Company recognized ₩46,283 million of non-operating income for refund of other than corporate tax as a result of administrative litigation for tax audits.



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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, 2022 and 2021 were as follows (excluding finance costs and income tax expense):

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Raw material used, changes in inventories and others	₩54,450,080	44,763,646
Employee benefits expenses(*2)	4,330,946	4,023,167
Outsourced processing cost	8,641,448	7,690,334
Electricity and water expenses	936,360	744,207
Depreciation(*1)	3,204,744	3,135,346
Amortization	488,835	444,100
Freight and custody expenses	3,077,044	1,580,200
Sales commissions	75,012	65,404
Loss on disposal of property, plant and equipment	111,082	95,720
Impairment loss on property, plant and equipment	213,183	311,520
Impairment loss on intangible assets	370,663	224,328
Donations	80,558	101,258
Other expenses	5,058,849	4,962,223
	<u>₩81,038,804</u>	<u>68,141,453</u>

(*1) Includes depreciation expense of investment property.

(*2) The details of employee benefits expenses for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Wages and salaries	₩4,024,805	3,684,894
Expenses related to post-employment benefits	306,141	338,273
	<u>₩4,330,946</u>	<u>4,023,167</u>



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36. Income Taxes

(a) Income tax expense for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Current income taxes(*1)	₩ 932,085	2,470,416
Deferred income tax due to temporary differences	(415,609)	(147,562)
Items credited directly to equity	(62,593)	(102,671)
Income tax expense	<u>₩ 453,883</u>	<u>2,220,183</u>

(*1) Refund (additional payment) of income taxes when filing a final corporation tax return is credited (charged) directly to current income taxes.

(b) The income taxes credited (charged) directly to equity for the years ended December 31, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Net changes in fair value of equity investments at fair value through other comprehensive income(*1)	₩ (37,431)	(83,532)
Remeasurements of defined benefit plans(*1)	(16,971)	(17,685)
Others	(8,191)	(1,454)
	<u>₩ (62,593)</u>	<u>(102,671)</u>

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



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- (c) The following table reconciles the calculated income tax expense based on POSCO HOLDINGS INC.'s statutory rate (27.5%) to the actual amount of taxes recorded by the Company for the years ended December 31, 2022, and 2021.

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Profit before income tax expense	₩4,014,366	9,416,073
Income tax expense computed at statutory rate	1,093,589	2,579,058
Adjustments:		
Tax credit	(133,727)	(313,205)
Additional Income tax expense for prior years (Refunds of tax for prior years)	22,929	(42,667)
Investment in subsidiaries, associates and joint ventures(*1)	(413,349)	(111,938)
Tax effect due to permanent differences	19,350	17,811
Effect of tax rate change	(180,533)	—
Others	45,624	91,124
	<u>(639,706)</u>	<u>(358,875)</u>
Income tax expense	₩ 453,883	2,220,183
Effective tax rate (%)	11.30%	23.58%

- (*1) During the year ended December 31, 2022, POSCO Holdings 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 ₩451,352 million related to recognition of deferred tax assets which were previously not recognized.



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(d) The movements in deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021 were as follows:

(in millions of Won)

	2022			2021		
	Beginning	Increase (decrease)	Ending	Beginning	Increase (decrease)	Ending
Deferred income tax due to temporary differences						
Allowance for doubtful account	₩ 143,358	(12,857)	130,501	147,224	(3,866)	143,358
PPE - Depreciation	30,908	(6,981)	23,927	32,236	(1,328)	30,908
Share of profit or loss of equity-accounted investees	224,566	45,072	269,638	219,431	5,135	224,566
Allowance for inventories valuation	22,983	24,582	47,565	11,542	11,441	22,983
PP&E - Revaluation	(1,603,383)	1,455,648	(147,735)	(1,733,999)	130,616	(1,603,383)
Prepaid expenses	19,530	(2,607)	16,923	19,831	(301)	19,530
PP&E - Impairment loss	453,669	(436,570)	17,099	383,503	70,166	453,669
Gain or loss on foreign currency translation	(1,105)	(12,601)	(13,706)	(51,645)	50,540	(1,105)
Defined benefit liabilities	(148,341)	107,924	(40,417)	(121,820)	(26,521)	(148,341)
Provision for construction losses	10,190	7,759	17,949	17,605	(7,415)	10,190
Provision for construction warranty	74,360	(4,089)	70,271	63,515	10,845	74,360
Accrued income	(50,452)	10,690	(39,762)	(41,176)	(9,276)	(50,452)
Provision for accelerated depreciation	(8,510)	(2,728,164)	(2,736,674)	(2,915)	(5,595)	(8,510)
Spin-off	—	2,111,815	2,111,815	—	—	—
Others	468,129	57,715	525,844	547,957	(79,828)	468,129
	<u>(364,098)</u>	<u>617,336</u>	<u>253,238</u>	<u>(508,711)</u>	<u>144,613</u>	<u>(364,098)</u>
Deferred income taxes recognized directly to equity						
Net changes in fair value of equity investments at fair value through other comprehensive income	73,459	(37,431)	36,028	156,991	(83,532)	73,459
Others	134,737	(141,788)	(7,051)	153,876	(19,139)	134,737
	<u>208,196</u>	<u>(179,219)</u>	<u>28,977</u>	<u>310,867</u>	<u>(102,671)</u>	<u>208,196</u>
Deferred tax from tax credit						
Tax credit carry-forward and others	72,864	(1,500)	71,364	72,406	458	72,864
Investments in subsidiaries, associates and joint ventures						
Investments in subsidiaries, associates and joint ventures	245,029	(21,008)	224,021	139,867	105,162	245,029
	<u>₩ 161,991</u>	<u>415,609</u>	<u>577,600</u>	<u>14,429</u>	<u>147,562</u>	<u>161,991</u>



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(e) Deferred tax assets and liabilities for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Won)

	2022			2021		
	Asset	Liabilities	Net	Asset	Liabilities	Net
Deferred income tax due to temporary differences						
Allowance for doubtful account	₩ 130,700	(199)	130,501	143,526	(168)	143,358
PPE - Depreciation	94,003	(70,076)	23,927	97,713	(66,805)	30,908
Share of profit or loss of equity-accounted investees	284,568	(14,930)	269,638	294,505	(69,939)	224,566
Allowance for inventories valuation	47,565	—	47,565	22,983	—	22,983
PP&E - Revaluation	—	(147,735)	(147,735)	—	(1,603,383)	(1,603,383)
Prepaid expenses	17,003	(80)	16,923	19,604	(74)	19,530
PP&E - Impairment loss	17,099	—	17,099	453,669	—	453,669
Gain or loss on foreign currency translation	75,235	(88,941)	(13,706)	87,947	(89,052)	(1,105)
Defined benefit liabilities	550,140	(590,557)	(40,417)	459,074	(607,415)	(148,341)
Provision for construction losses	17,949	—	17,949	10,190	—	10,190
Provision for construction warranty	70,271	—	70,271	74,360	—	74,360
Accrued income	—	(39,762)	(39,762)	—	(50,452)	(50,452)
Provision for accelerated depreciation	—	(2,736,674)	(2,736,674)	—	(8,510)	(8,510)
Spin-off	2,112,733	(918)	2,111,815	—	—	—
Others	585,589	(59,745)	525,844	699,099	(230,970)	468,129
	<u>4,002,855</u>	<u>(3,749,617)</u>	<u>253,238</u>	<u>2,362,670</u>	<u>(2,726,768)</u>	<u>(364,098)</u>
Deferred income taxes recognized directly to equity						
Net changes in fair value of equity investments at fair value through other comprehensive income	105,125	(69,097)	36,028	143,956	(70,497)	73,459
Others	30,370	(37,421)	(7,051)	159,793	(25,056)	134,737
	<u>135,495</u>	<u>(106,518)</u>	<u>28,977</u>	<u>303,749</u>	<u>(95,553)</u>	<u>208,196</u>
Deferred tax from tax credit						
Tax credit carry-forward and others	71,364	—	71,364	72,864	—	72,864
Investments in subsidiaries, associates and joint ventures						
Investments in subsidiaries, associates and joint ventures	463,133	(239,112)	224,021	513,884	(268,855)	245,029
	<u>₩4,672,847</u>	<u>(4,095,247)</u>	<u>577,600</u>	<u>3,253,167</u>	<u>(3,091,176)</u>	<u>161,991</u>

(f) As of December 31, 2022, deductible temporary differences of ₩4,532,662 million and taxable temporary differences of ₩10,640,755 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.



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37. Earnings Per Share

(a) Basic earnings per share for the years ended December 31, 2022 and 2021 were as follows:

(in Won except per share information)

	2022	2021
Profit attributable to controlling interest	₩3,144,086,508,618	6,617,238,627,273
Interests of hybrid bonds, net of tax	(1,078,164,383)	(6,669,999,999)
Weighted-average number of common shares outstanding(*1)	75,814,870	75,696,150
Basic earnings per share	₩ 41,456	87,330

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

(shares)

	2022	2021
Total number of common shares issued	84,571,230	87,186,835
Weighted-average number of treasury shares	(8,756,360)	(11,490,685)
Weighted-average number of common shares outstanding	75,814,870	75,696,150

(b) Diluted earnings per share for the years ended December 31, 2022 and 2021 were as follows:

(in Won, except share information)

	2022	2021
Profit attributable to controlling interest	₩3,144,086,508,618	6,617,238,627,273
Interests of hybrid bonds, net of tax	(1,078,164,383)	(6,669,999,999)
Gain or loss from exchange rate on and revaluation of exchangeable bonds	(55,751,463,819)	(63,166,690,813)
Adjusted weighted-average number of common shares(*1)	78,906,375	76,688,340
Diluted earnings per share	₩ 39,126	85,377

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

(shares)

	2022	2021
Weighted-average number of common shares outstanding	75,814,870	75,696,150
Weighted-average number of potential common share	3,091,505	992,190
Adjusted weighted-average number of common shares	78,906,375	76,688,340

The Company has potentially issuable common shares due to its exchangeable bonds as of and Stock Grant program as of December 31, 2022. When considering the Stock Grant program, the issuable shares have an anti-dilution effect, therefore the effect from the Stock Grant program was excluded from the calculation of diluted earnings per share.



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38. Related Party Transactions

(a) Significant transactions between the controlling company and related companies for the years ended December 31, 2022 and 2021 were as follows:

1) For the year ended December 31, 2022

(in millions of Won)

	Sales and others(*1)			Purchase and others(*2)			
	Sales	Dividends	Others	Purchase of material	Purchase of fixed assets	Outsourced processing cost	Others
Subsidiaries(*3)							
POSCO	₩ 87,165	—	2	—	—	—	10,446
POSCO ENGINEERING & CONSTRUCTION CO.,LTD.	7,502	16,555	7	—	80,306	—	13,086
POSCO STEELEON Co., Ltd. (formerly, POSCO COATED & COLOR STEEL Co., Ltd.)	133,743	—	215	—	—	7,656	18
POSCO ICT(*4)	1,760	4,970	18	—	39,932	10,190	34,724
eNtoB Corporation	3	24	—	60,649	9,706	32	3,453
POSCO CHEMICAL CO., LTD	89,535	13,878	44	84,301	4,757	56,325	908
POSCO ENERGY CO., LTD.	4,331	—	—	6,682	—	—	3,925
POSCO MOBILITY SOLUTION	176,534	—	—	—	—	8,802	28
POSCO INTERNATIONAL Corporation	2,102,356	62,093	—	244,230	—	768	1,049
POSCO Thainox Public Company Limited	49,359	22,867	—	—	—	—	1
POSCO Canada Ltd.	—	—	—	77,225	—	—	—
Qingdao Pohang Stainless Steel Co., Ltd.	32,584	—	—	—	—	—	—
POSCO JAPAN Co., Ltd.	28,790	—	—	835	—	—	16
POSCO-VIETNAM Co., Ltd.	44,840	—	513	—	—	—	—
POSCO MEXICO S.A. DE C.V.	102,776	—	562	—	—	—	—
POSCO Maharashtra Steel Private Limited	171,806	—	1,130	—	—	—	120
POSCO(Suzhou) Automotive Processing Center Co., Ltd.	42,320	—	—	—	—	—	15
POSCO VST CO., LTD.	28,475	—	—	—	—	—	—
POSCO INTERNATIONAL SINGAPORE PTE LTD.	—	—	179	379,823	—	—	—
POSCO ASSAN TST STEEL INDUSTRY	47,335	—	537	—	—	—	8
Others	203,869	2,452	6,574	61,457	18,844	53,139	223,222
	<u>3,355,083</u>	<u>122,839</u>	<u>9,781</u>	<u>915,202</u>	<u>153,545</u>	<u>136,912</u>	<u>291,019</u>
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	—	—	197
	<u>106,904</u>	<u>401,618</u>	<u>14,712</u>	<u>372,709</u>	<u>—</u>	<u>—</u>	<u>197</u>
	<u>₩3,461,987</u>	<u>524,457</u>	<u>24,493</u>	<u>1,287,911</u>	<u>153,545</u>	<u>136,912</u>	<u>291,216</u>

(*1) Sales and others mainly consist of sales of steel products to subsidiaries, associates and joint ventures.

(*2) Purchases and others mainly consist of subsidiaries' purchases of construction services and purchases of raw materials to manufacture steel products.

(*3) As of December 31, 2022, the Company provided guarantees to related parties (Note 39)

(*4) Others (purchase) mainly consist of service fees related to maintenance and repair of ERP System.



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
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2) For the year ended December 31, 2021

(in millions of Won)

	Sales and others			Purchase and others			
	Sales	Dividends	Others	Purchase of material	Purchase of fixed assets	Outsourced processing cost	Others
Subsidiaries							
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	₩ 5,859	11,037	76	—	491,624	158	32,328
POSCO STEELEON Co., Ltd. (formerly, POSCO COATED & COLOR STEEL Co., Ltd.)	695,451	1,706	896	—	—	39,014	627
POSCO ICT	1,605	4,970	26	—	324,275	46,037	181,221
eNtoB Corporation	14	—	—	381,633	65,254	115	25,242
POSCO CHEMICAL CO., LTD	318,808	11,208	20,709	462,013	14,358	298,431	3,724
POSCO ENERGY CO., LTD.	5,207	—	1,450	11,271	—	—	26,137
POSCO MOBILITY SOLUTION	807,925	—	—	—	—	45,758	914
POSCO INTERNATIONAL Corporation	9,750,636	54,331	—	1,299,561	—	988	8,968
POSCO Thainox Public Company Limited	309,295	—	—	—	—	—	69
POSCO Canada Ltd.	—	—	1,372	202,523	—	—	—
POSCO Asia Co., Ltd.	19,142	—	426	417	—	—	1,648
Qingdao Pohang Stainless Steel Co., Ltd.	188,470	—	8	—	—	—	83
POSCO JAPAN Co., Ltd.	1,613,634	—	1	27,937	1,726	—	4,894
POSCO-VIETNAM Co., Ltd.	441,758	—	975	—	—	—	46
POSCO MEXICO S.A. DE C.V.	460,773	—	548	—	—	—	1,494
POSCO Maharashtra Steel Private Limited	899,675	—	903	—	—	—	229
POSCO(Suzhou) Automotive Processing Center Co., Ltd.	161,808	—	—	—	—	—	2
POSCO VST CO., LTD.	201,517	—	—	—	—	—	20
POSCO INTERNATIONAL SINGAPORE PTE LTD.	—	—	1,453	1,704,193	—	—	—
POSCO ASSAN TST STEEL INDUSTRY	278,749	—	734	8	—	—	24
Others	1,337,458	49,872	6,289	220,000	63,116	276,202	153,677
	<u>17,497,784</u>	<u>133,124</u>	<u>35,866</u>	<u>4,309,556</u>	<u>960,353</u>	<u>706,703</u>	<u>441,347</u>
Associates and joint ventures							
SNNC	72,797	2,514	—	736,441	—	—	107
POSCO-SAMSUNG-Slovakia Processing Center	72,342	—	—	—	—	—	—
Roy Hill Holdings Pty Ltd	—	418,044	—	2,338,625	—	—	—
Others	37,410	63,298	—	107,637	—	—	49,741
	<u>182,549</u>	<u>483,856</u>	<u>—</u>	<u>3,182,703</u>	<u>—</u>	<u>—</u>	<u>49,848</u>
	<u>₩17,680,333</u>	<u>616,980</u>	<u>35,866</u>	<u>7,492,259</u>	<u>960,353</u>	<u>706,703</u>	<u>491,195</u>



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(b) The related account balances of significant transactions between the controlling company and related companies as of December 31, 2022 and 2021 are as follows:

1) December 31, 2022

(in millions of Won)

	Receivables			Payables		
	Trade accounts and notes receivable	Others	Total	Accounts payable	Others	Total
Subsidiaries						
POSCO	₩ 75,343	6,600	81,943	5,678	14,663	20,341
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	3,808	660	4,468	—	—	—
POSCO STEELEON Co., Ltd. (formerly, POSCO COATED & COLOR STEEL Co., Ltd.)	818	—	818	—	—	—
POSCO ICT	687	—	687	859	705	1,564
eNtoB Corporation	—	—	—	—	—	—
POSCO CHEMICAL CO., LTD	8,550	—	8,550	—	5,086	5,086
POSCO ENERGY CO., LTD.	3,400	462	3,862	—	1,593	1,593
POSCO MOBILITY SOLUTION	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	—	513	513	104	—	104
PT. KRAKATAU POSCO	—	8,967	8,967	391	—	391
Others	1,918	5,618	7,536	11,874	3,335	15,209
	<u>97,015</u>	<u>23,286</u>	<u>120,301</u>	<u>19,514</u>	<u>25,884</u>	<u>45,398</u>
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
	<u>23,684</u>	<u>203,323</u>	<u>227,007</u>	<u>74</u>	<u>—</u>	<u>74</u>
	<u>₩ 120,699</u>	<u>226,609</u>	<u>347,308</u>	<u>19,588</u>	<u>25,884</u>	<u>45,472</u>

(*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 ₩12,166 million to FQM Australia Holdings Pty Ltd.

2) December 31, 2021

(in millions of Won)

	Receivables			Payables			
	Trade accounts and notes receivable	Others	Total	Trade accounts and notes payable	Accounts payable	Others	Total
Subsidiaries							
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	₩ 5,692	10	5,702	—	97,007	507	97,514
POSCO STEELEON Co., Ltd. (formerly, POSCO COATED & COLOR STEEL Co., Ltd.)	95,001	—	95,001	—	154	5,082	5,236
POSCO ICT	221	3	224	3,736	155,064	27,562	186,362
eNtoB Corporation	—	—	—	1,683	23,851	—	25,534
POSCO CHEMICAL CO., LTD	35,895	3,664	39,559	12,969	57,498	17,990	88,457
POSCO ENERGY CO., LTD.	1,485	292	1,777	—	6,169	10,066	16,235
POSCO MOBILITY SOLUTION	133,608	—	133,608	71	2,232	5,104	7,407
POSCO INTERNATIONAL Corporation	1,279,463	4	1,279,467	4,831	483	502	5,816
POSCO Thainox Public Company Limited	54,804	—	54,804	—	—	—	—
Qingdao Pohang Stainless Steel Co., Ltd.	35,423	—	35,423	—	83	—	83
POSCO MEXICO S.A. DE C.V.	179,428	251	179,679	—	—	—	—
POSCO Maharashtra Steel Private Limited	530,693	1,048	531,741	—	—	—	—
POSCO INTERNATIONAL SINGAPORE PTE LTD.	—	14	14	169,565	90	—	169,655
POSCO ASSAN TST STEEL INDUSTRY	220,481	951	221,432	—	—	—	—
PT. KRAKATAU POSCO	1,395	14,750	16,145	—	—	—	—
Others	366,857	7,011	373,868	22,583	48,274	84,778	155,635
	<u>2,940,446</u>	<u>27,998</u>	<u>2,968,444</u>	<u>215,438</u>	<u>390,905</u>	<u>151,591</u>	<u>757,934</u>
Associates and joint ventures							
SNNC	420	65	485	52,396	—	—	52,396
Roy Hill Holdings Pty Ltd	—	34,356	34,356	436,774	—	—	436,774
FQM Australia Holdings Pty Ltd(*1)	—	181,122	181,122	—	—	—	—
Others	168,167	15,895	184,062	5,549	187	—	5,736
	<u>168,587</u>	<u>231,438</u>	<u>400,025</u>	<u>494,719</u>	<u>187</u>	<u>—</u>	<u>494,906</u>
	<u>₩ 3,109,033</u>	<u>259,436</u>	<u>3,368,469</u>	<u>710,157</u>	<u>391,092</u>	<u>151,591</u>	<u>1,252,840</u>

(*1) During the year ended December 31, 2021, the Company made a new loan of ₩181,122 million to FQM Australia Holdings Pty Ltd, an associate, and recognized-it as a long-term loan.



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(c) Significant transactions between the Company, excluding the controlling company, and related companies for the years ended December 31, 2022 and 2021 were as follows:

1) For the year ended December 31, 2022

(in millions of Won)

	Sales and others			Purchase and 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 - Companhia Siderurgica do Pecem	7,173	—	—	126,123	22,663
Zhongyue POSCO (Qinhuangdao) Tinsplate Industrial Co., Ltd(*1)	17,824	—	—	24,190	—
POS-SEAH STEEL WIRE (TIANJIN) CO., Ltd.	14,863	—	—	—	—
POSCO SeAH Steel Wire (Nantong) Co., Ltd.	32,007	—	—	357	—
South-East Asia Gas Pipeline Company Ltd.	—	14,541	2,974	—	—
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	—	—	—	—
UITrans LRT Co., Ltd.	—	—	—	—	—
Roy Hill Holdings Pty Ltd	—	46,780	—	1,463,383	—
Others	547,627	137,733	3,026	507,705	122,092
	<u>₩1,787,240</u>	<u>233,046</u>	<u>6,438</u>	<u>2,740,718</u>	<u>148,374</u>

(*1) Zhongyue POSCO (Qinhuangdao) Tinsplate Industrial Co., Ltd was excluded from the association due to the sale of its shares during the year ended December 31, 2022.

2) For the year ended December 31, 2021

(in millions of Won)

	Sales and others			Purchase and others	
	Sales	Dividends	Others	Purchase of material	Others
Associates and joint ventures					
New Songdo International City Development, LLC	₩ 286,731	—	266	—	165
SNNC	75,129	—	743	19,720	40,090
Noeul Green Energy Co., Ltd.	6,127	—	—	—	1,896
CSP - Companhia Siderurgica do Pecem	4,660	—	—	96,179	—
Zhongyue POSCO (Qinhuangdao) Tinsplate Industrial Co., Ltd	46,323	—	—	33,316	5,686
POS-SEAH STEEL WIRE (TIANJIN) CO., Ltd.	14,673	—	—	—	—
POSCO SeAH Steel Wire (Nantong) Co., Ltd.	39,887	—	—	164	—
DMSA/AMSA	—	—	—	9,875	—
South-East Asia Gas Pipeline Company Ltd.	—	27,828	7,564	—	—
POSCO MITSUBISHI CARBON TECHNOLOGY	65,746	—	10	4,347	180
Samcheok Blue Power Co., Ltd.	263,730	405	—	—	4
TK CHEMICAL CORPORATION	14,906	—	—	2,292	—
Pocheon-Hwado Highway Corp.	62,829	—	—	—	—
UITrans LRT Co., Ltd.	10,736	—	—	—	—
Roy Hill Holdings Pty Ltd	—	104,903	—	—	—
Others	184,606	49,031	15,449	31,379	18,505
	<u>₩1,076,083</u>	<u>182,167</u>	<u>24,032</u>	<u>197,272</u>	<u>66,526</u>



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
As of December 31, 2022 and 2021

(d) The related account balances of significant transactions between the Company, excluding the controlling company, and related companies as of December 31, 2022 and 2021 are as follows:

1) December 31, 2022

(in millions of Won)

	Receivables(*1)				Payables		
	Trade accounts and notes receivable	Loans	Others	Total	Trade accounts and notes payable	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	—	—	—
POSCO SeAH Steel Wire(Nantong) Co., Ltd.	7,096	—	—	7,096	—	—	—
South-East Asia Gas Pipeline Company Ltd.	—	—	—	—	—	—	—
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
	<u>₩ 313,264</u>	<u>319,687</u>	<u>136,872</u>	<u>769,823</u>	<u>671,114</u>	<u>85,738</u>	<u>756,852</u>

(*1) As of December 31, 2022, the Company recognizes bad-debt allowance for receivables amounting to ₩131,588 million.

2) December 31, 2021

(in millions of Won)

	Receivables(*1)				Payables		
	Trade accounts and notes receivable	Loans	Others	Total	Trade accounts and notes payable	Others	Total
Associates and joint ventures							
New Songdo International City Development, LLC	₩ 49,748	—	16,261	66,009	—	—	—
Chuncheon Energy Co., Ltd.	—	—	—	—	257	—	257
Samcheok Blue Power Co., Ltd.	120,672	—	—	120,672	—	23,683	23,683
Nickel Mining Company SAS	—	62,611	477	63,088	—	—	—
CSP - Compania Siderurgica do Pecem	—	—	—	—	3,144	—	3,144
Zhongyue POSCO (Qinhuangdao) Tinplate Industrial Co., Ltd	9,108	—	—	9,108	4,393	—	4,393
POSCO SeAH Steel Wire(Nantong) Co., Ltd.	19,271	—	—	19,271	—	18	18
South-East Asia Gas Pipeline Company Ltd.	—	47,423	—	47,423	—	—	—
POSCO MITSUBISHI CARBON TECHNOLOGY	8,183	—	—	8,183	1,083	—	1,083
Pocheon-Hwado Highway Corp.	14,162	—	—	14,162	—	—	—
UITrans LRT Co., Ltd.	7,048	29,099	—	36,147	—	—	—
Roy Hill Holdings Pty Ltd	—	—	8,589	8,589	—	—	—
SNNC	4,708	—	—	4,708	143	—	143
Others	34,254	179,036	106,186	319,476	97	31,047	31,144
	<u>₩ 267,154</u>	<u>318,169</u>	<u>131,513</u>	<u>716,836</u>	<u>9,117</u>	<u>54,748</u>	<u>63,865</u>

(*1) As of December 31, 2021, the Company recognizes bad-debt allowance for receivables amounting to ₩114,315 million.



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(e) Significant financial transactions between the Company, excluding the controlling company, and related companies for the years ended December 31, 2022 and 2021 were as follows:

1) December 31, 2022

<i>(in millions of Won)</i>	Beginning	Lend	Collect	Others(*1)	Ending
Associates and joint ventures					
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 Coi., LTD	—	100	—	—	100
POSCO(Guangdong) Automotive Steel Co., Ltd.	—	35,131	—	—	35,131
	<u>₩ 318,169</u>	<u>57,601</u>	<u>(63,772)</u>	<u>7,689</u>	<u>319,687</u>

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

2) December 31, 2021

<i>(in millions of Won)</i>	Beginning	Lend	Collect	Others(*1)	Ending
Associates and joint ventures					
UITrans LRT Co., Ltd.	₩ 23,452	5,682	—	(35)	29,099
South-East Asia Gas Pipeline Company Ltd.	91,003	—	(49,928)	6,348	47,423
PT. Batutua Tembaga Raya(*2)	35,355	—	—	(35,355)	—
PT. Tanggamus Electric Power	4,304	—	—	386	4,690
PT. Wampu Electric Power	5,186	—	—	465	5,651
PT. POSMI Steel Indonesia	2,176	—	—	195	2,371
Nickel Mining Company SAS	62,420	—	—	191	62,611
KRAKATAU POS-CHEM DONG-SUH CHEMICAL	5,440	—	—	(698)	4,742
POS-SeAH Steel Wire (Thailand) Co., Ltd.	6,528	—	—	585	7,113
AMCI (WA) PTY LTD	83,291	6,154	—	2,220	91,665
POS-AUSTEM YANTAI AUTOMOTIVE CO.,LTD	5,440	—	—	488	5,928
POS-AUSTEM WUHAN AUTOMOTIVE CO.,LTD	8,704	—	—	780	9,484
Hyo-chun Co., Ltd.	2,382	—	—	—	2,382
POS-AUSTEM Suzhou Automotive Co., Ltd	16,320	—	—	1,463	17,783
CAML RESOURCES PTY LTD	3,312	—	(3,312)	—	—
Shinahn Wind Power Generation(*3)	37	60	—	(97)	—
FQM Australia Holdings PTY Ltd	—	27,242	—	(15)	27,227
	<u>₩ 355,350</u>	<u>39,138</u>	<u>(53,240)</u>	<u>(23,079)</u>	<u>318,169</u>

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

(*2) PT. Batutua Tembaga Raya was excluded from the association due to the sale of its shares during the year ended December 31, 2021. Meanwhile, the uncollected loan was offset and written off from the loan loss provisions set in the previous period, and these effects are included in Others.

(*3) Shinahn Wind Power Generation was excluded from the association due to the sale of its shares during the year ended December 31, 2021.



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(f) For the years ended December 31, 2022 and 2021, details of compensation to key management officers were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Short-term benefits	₩174,629	111,900
Long-term benefits	9,182	18,115
Retirement benefits	22,106	22,239
	<u>₩205,917</u>	<u>152,254</u>

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.



POSCO HOLDINGS INC. and Subsidiaries
Notes to the Consolidated Financial Statements, Continued
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(b) Details of guarantees

1) Contingent liabilities on outstanding guarantees and others provided by the Company as of December 31, 2022 are as follows.

(in millions of Won)

Guarantor	Guarantee beneficiary	Financial institution	Guarantee limit		Guarantee amount	
			Foreign currency	Won equivalent	Foreign currency	Won equivalent
[The Company]						
POSCO HOLDINGS INC.	POSCO Asia Co., Ltd.	Credit Agricole and others	USD	205,000,000	259,797	—
	POSCO Maharashtra Steel Private Limited	SMBC and others	USD	139,784,000	177,149	109,784,000
	PT. KRAKATAU POSCO	Export-Import Bank of Korea and others	USD	2,164,300,000	2,742,818	1,250,244,173
	POSCO ASSAN TST STEEL INDUSTRY	SOCIETE GENERALE and others	USD	131,874,750	167,126	131,874,750
POSCO	POSCO MEXICO S.A. DE C.V.	BOA and others	USD	60,000,000	76,038	60,000,000
	POSCO-VIETNAM Co., Ltd.	SMBC and others	USD	156,000,000	197,699	109,999,999
	POSCO COATED STEEL (THAILAND) CO., LTD.	SMBC and others	THB	5,501,000,000	201,667	4,765,000,000
POSCO INTERNATIONAL Corporation	POSCO INTERNATIONAL GLOBAL DEVELOPMENT PTE. LTD.	Export-Import Bank of Korea and others	USD	180,000,000	228,114	150,000,000
	POSCO INTERNATIONAL POWER (PNGLAE) LIMITED	KDB bank	USD	20,880,000	26,461	17,400,000
	GOLDEN LACE POSCO INTERNATIONAL CO., LTD.	Shinhan Bank and others	USD	13,200,000	16,728	11,000,000
	PT. Bio Inti Agrindo	BTPN and others	IDR	1,250,510,000,000	101,166	1,178,510,000,000
	POSCO ASSAN TST STEEL INDUSTRY	ING	USD	14,652,750	18,569	14,652,750
	POSCO INTERNATIONAL Deutschland GmbH	Bank Mendes Gans Amsterdam				—
	POSCO INTERNATIONAL AMERICA Corp.					15,002,042
	POSCO INTERNATIONAL JAPAN Corp.					7,521,345
	POSCO INTERNATIONAL SINGAPORE PTE. LTD.					—
	POSCO INTERNATIONAL Malaysia SDN BHD					—
	POSCO INTERNATIONAL Italia S.R.L.					—
	POSCO INTERNATIONAL MEXICO S.A. de C.V.		USD	50,000,000	63,365	—
	GRAIN TERMINAL HOLDING PTE. LTD.	Export-Import Bank of Korea and others	USD	27,000,000	34,217	27,000,000
	POSCO INTERNATIONAL E&P MALAYSIA SDN. BHD.	SC, Malaysia	USD	6,000,000	7,604	6,000,000
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	POSCO E&C Vietnam Co., Ltd.	POSCO Asia Co., Ltd. and others	USD	36,000,000	45,623	36,000,000
	PT POSCO E&C INDONESIA	POSCO Asia Co., Ltd. and others	USD	25,900,000	32,823	25,900,000
POSCO ICT	PT POSCO ICT INDONESIA	POSCO Asia Co., Ltd. and others	USD	1,500,000	1,901	300,000
POSCO STEELION Co., Ltd.	Myanmar POSCO C&C Company, Limited.	POSCO Asia Co., Ltd. and others	USD	13,986,947	17,726	11,953,170
POSCO ENERGY CO., LTD	PT. KRAKATAU POSCO ENERGY	POSCO Asia Co., Ltd. and others	USD	65,102,271	82,504	65,102,271
[Associates and joint ventures]						
POSCO HOLDINGS INC.	CSP - Compania Siderurgica do Pecem	Export-Import Bank of Korea and others	USD	420,000,000	532,264	358,226,014
	Nickel Mining Company SAS	BNDDES	BRL	464,060,000	111,244	464,060,000
POSCO	LLP POSUK Titanium	SMBC	EUR	46,000,000	62,155	46,000,000
POSCO INTERNATIONAL Corporation	GLOBAL KOMSCO Daewoo LLC	Hana Bank	USD	6,650,000	8,428	6,300,000
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	Chun-cheon Energy Co., Ltd.	Kookmin Bank and others	KRW	149,200	149,200	143,110
[Others]						
POSCO INTERNATIONAL Corporation	SHERRITT INTERNATIONAL CORP.	Export-Import Bank of Korea	USD	21,818,182	27,650	860,880
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	Busan Sansong Tunnel and others	Balhae Infrastructure Fund and others	KRW	1,491,670	1,491,670	547,785
POSCO ICT	Busan Sansong Tunnel	Kookmin Bank	KRW	7,621	7,621	6,391
POSCO AUSTRALIA PTY LTD	Department of Trade and Investment (NSW Government) and others	Woorl Bank and others				—
PT. Bio Inti Agrindo	KSU Mandob	Bank Muamalat	AUD	14,242,095	12,226	14,242,095
POSCO Maharashtra Steel Private Limited	Gail India and others	HSBC and others	IDR	80,000,000,000	6,472	80,000,000,000
			INR	772,210,905	11,823	772,210,905
			USD	3,773,148,900	4,781,713	2,428,410,394
			KRW	1,648,491	1,648,491	697,286
			IDR	1,330,510,000,000	107,638	1,258,510,000,000
			INR	772,210,905	11,823	772,210,905
			THB	5,501,000,000	201,667	4,765,000,000
			EUR	46,000,000	62,155	46,000,000
			AUD	14,242,095	12,226	14,242,095
			BRL	464,060,000	111,244	464,060,000

2) Contingent liabilities on debt acquisition, financial support agreement provided by the Company as of December 31, 2022 are as follows.

(in millions of Won)

Provider	Recipient	Creditor	Agreed amount		Executed amount	
			Foreign currency	Won equivalent	Foreign currency	Won equivalent
[The Company]						
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	JB CLARK HILLS	HSBC and others	USD	30,000,000	38,019	27,500,000
[Associates and joint ventures]						
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	New Songdo International City Development, LLC	Others	KRW	520,000	520,000	453,400
	POHANG E&E Coi., LTD	Heungkuk Life Insurance Co., Ltd.	KRW	71,930	71,930	50,492
	UTrans LRT Co., Ltd	Kookmin Bank and others	KRW	205,051	205,051	176,600
	Pocheon-Hwado Highway Corp.	Lotte Insurance Co., Ltd and others	KRW	319,526	319,526	95,137
	Pureun Tongyeong Enviro Co., Ltd.	KDB Bank and others	KRW	22,714	22,714	13,035
	Pure Gimpo Co., Ltd	KDB Bank and others	KRW	51,559	51,559	27,213
	Clean Iksan Co., Ltd	SAMSUNG FIRE & MARINE INSURANCE	KRW	44,054	44,054	27,710
POSCO ICT	UTrans LRT Co., Ltd	Kookmin Bank	KRW	43,736	43,736	35,261
[Others]						
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	Incheon - Gimpo Expressway Co., Ltd and others	Kookmin Bank and others	KRW	3,823,072	3,823,072	1,627,863
POSCO ICT	Incheon - Gimpo Expressway Co., Ltd and others	Kookmin Bank and others	KRW	216,051	216,051	94,474



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(c) Other commitments

Details of other commitments of the Company as of December 31, 2022 are as follows:

Company	Description
POSCO HOLDINGS INC.	<p>As of December 31, 2022, 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 4.12 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, 2022, the ending balance of the borrowing amounts to USD 1.02 million.</p> <p>POSCO HOLDINGS INC. has provided a supplemental funding agreement, as the largest shareholder, as requested from the creditors, including Norddeutsche Landesbank, for seamless funding to POSCO ENERGY Co., Ltd., a subsidiary of the Company, under construction of new power plant.</p> <p>POSCO HOLDINGS INC. has deposited 3,128,714 treasury shares for exchange with the Korea Securities Depository in relation to foreign currency exchangeable bonds as of December 31, 2022.</p>
POSCO	<p>POSCO entered into long-term contracts to purchase iron ore, coal, nickel and others. The contracts of iron ore and coal generally have terms of more than three years and the contracts of nickel have terms of more than one year. These contracts provide for periodic price adjustments based on the market price. As of December 31, 2022, 66 million tons of iron ore and 4 million tons of coal remained to be purchased under such long-term contracts.</p> <p>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. The purchase price is subject to change, based on changes of the monthly standard oil price (JCC) and with a price ceiling.</p> <p>POSCO has a long-term service contract for the transportation of raw material. As of December 31, 2022, there are 36 vessels under contract, and the average remaining contract period is about 8 years.</p>
POSCO INTERNATIONAL Corporation	<p>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, 2022, the amount which is exposed to the ship purchase agreements entered into is USD 170 million.</p> <p>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.</p>
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	<p>As of December 31, 2022, POSCO ENGINEERING & CONSTRUCTION CO., LTD. has foreign currency guarantees of up to USD 1,572 million provided by financial institutions and uses USD 753 million with Woori Bank and others.</p> <p>As of December 31, 2022, according to the project agreements related to redevelopment and reconstruction projects, the Company has an agreement to compensate the Korea Housing and Urban Guarantee Corporation for damages of principal and interest amounting to ₩1,861,391 million (limited to ₩3,346,129 million). Furthermore, the Company provides agreements of construction completion (compensation for non-performance) in connection with a number of implementation and union business projects.</p> <p>As of December 31, 2022, according to the investor agreement for the construction of Samcheok Thermal Power Plant, POSCO ENGINEERING & CONSTRUCTION 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, and the payment period is expected to be in the first quarter of 2024.</p>
POSCO ICT	<p>As of December 31, 2022, in relation to contract enforcement, POSCO ICT is provided with a guarantee of ₩83,547 million, ₩58,091 million, ₩153 million, and ₩5,333 million from Korea Software Financial Cooperative, Seoul Guarantee Insurance, Engineering guarantee insurance and Construction Guarantee Cooperative respectively.</p>



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(d) Litigation in progress

1) Request for Arbitration of NSC Investment and TGC

In March 2019, NSC Investment and TGC (“Applicant”), a former joint venture partner of POSCO ENGINEERING & CONSTRUCTION CO., LTD., in connection with the Songdo International City Development Project in Incheon, filed an arbitration (mediation price: approximately USD 2.3 billion) for alleged violations of contract by POSCO ENGINEERING & CONSTRUCTION CO., LTD. In the meantime the Company has determined that the Applicant’s claim is without merit, and did not recognized a provision. Meanwhile, on October 28, 2022, the final arbitration ruling resulted in the rejection of all of the Applicant’s demands.

2) Other litigation

As of December 31, 2022, 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:

(in millions of Won, in thousands of foreign currencies)

Company	Legal actions	Claim amount	Won equivalent
POSCO HOLDINGS INC.	2	KRW 9,445	9,445
POSCO	46	KRW 254,990	254,990
POSCO INTERNATIONAL Corporation	1	CAD 79,000	73,895
	2	INR 4,469,396	68,426
	6	KRW 15,116	15,116
	1	PKR 124,775	697
	5	USD 73,141	92,692
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	107	KRW 546,364	546,364
POSCO ICT	1	BRL 7,586	1,818
	14	KRW 7,751	7,751
POSCO ENERGY CO., LTD.	2	KRW 66,505	66,505
POSCO CHEMCAL CO., LTD	3	KRW 1,514	1,514
POSCO M-TECH	1	KRW 45	45
POSCO A&C	8	KRW 11,556	11,556
POSCO O&M Co., Ltd.	3	KRW 1,035	1,035
eNtoB Corporation	1	KRW 14	14
POSCO MOBILITY SOLUTION	1	KRW 6	6
POSCO Humans	2	KRW 233	233
POSCO-India Pune Processing Center. Pvt. Ltd.	1	INR 2,197,800	33,648
POSCO INTERNATIONAL VIETNAM CO., LTD.	1	VND 579,407	31
POSCO Engineering and Construction India Private Limited	2	INR 493,968	7,563
POSCO ENGINEERING & CONSTRUCTION DO BRAZIL LTDA.	79	BRL 185,766	44,532
POSCO ENGINEERING (THAILAND) CO., LTD.	1	THB 160,929	5,900
QINGDAO POHANG STAINLESS STEEL CO., LTD.	4	CNY 55,760	10,117
POSCO INDIA PROCESSING CENTER PRIVATE LIMITED	1	INR 54,420	833
POSCO E&C CHINA CO., LTD.	2	CNY 24,837	4,506
POSCO SOUTH EAST ASIA PTE. LTD	2	USD 15,900	20,150
Brazil Sao Paulo Steel Processing Center	4	BRL 3,844	921
POSCO Thainox Public Company Limited	1	THB 3,000	110
POSCO(Yantai) Automotive Processing Center Co., Ltd	1	CNY 231	42
POSCO ASSAN TST STEEL INDUSTRY	6	USD 133	168
POSCO TNPC Otomotiv Celik San. Ve Tic. A.S	3	TRY 93	6
POSCO(Dalian) IT Center Development Co., Ltd.	1	CNY 49	9
POSCO-India Private Limited	1	INR 2,466	38
PT. KRAKATAU POSCO ENERGY	1	IDR 38,243,593	3,094
POSCO INTERNATIONAL SINGAPORE PTE. LTD.	1	USD 54,665	69,276

(*1) The Company made a reliable estimate in 57 lawsuits by considering the possibility and amount of expected outflow of resources and recognized ₩52,530 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, 2022 for the matters.



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(e) Other contingent circumstances

Other major contingencies for the Company as of December 31, 2022 are as follows:

<u>Company</u>	<u>Description</u>
POSCO HOLDINGS INC.	POSCO HOLDINGS INC. has provided 3 blank checks to Korea Energy Agency as collateral for long-term foreign currency borrowings. POSCO HOLDINGS INC. is jointly liable for guarantees of indebtedness (including financial guarantee contracts) before the spin off date of POSCO.
POSCO INTERNATIONAL Corporation	As of December 31, 2022, POSCO INTERNATIONAL Corporation has provided 30 blank promissory notes and 23 blank checks to Korea Energy Agency and others as collateral for the guarantee on performance for contracts and others.
POSCO ENGINEERING & CONSTRUCTION CO., LTD.	As of December 31, 2022, POSCO ENGINEERING & CONSTRUCTION CO., LTD. has provided 34 blank checks and 4 blank promissory notes as collateral for agreements and outstanding loans, and has provided joint guarantee of ₩ 7,515,815 million for guarantee that partners had issued from Korea Housing & Urban Guarantee Corporation and others.
POSCO ICT	As of December 31, 2022, POSCO ICT has provided 6 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, 2022 and 2021 were as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Trade accounts and notes receivable	₩ 547,480	(1,565,327)
Other receivables	(96,141)	(441,412)
Inventories	(415,596)	(6,049,837)
Other current assets	(230,084)	(210,614)
Other non-current assets	42,767	(246,066)
Trade accounts and notes payable	141,925	1,401,942
Other payables	611,932	170,209
Other current liabilities	(272,505)	410,745
Provisions	(295,624)	(154,471)
Payments of severance benefits	(300,353)	(253,207)
Plan assets •	(59,461)	(186,548)
Other non-current liabilities	(9,704)	54,012
	<u>₩(335,364)</u>	<u>(7,070,574)</u>



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(b) Changes in liabilities arising from financing activities for the years ended December 31, 2022 and 2021 were as follows:

1) December 31, 2022

(in millions of Won)

	Liabilities				
	Short-term borrowings	Long-term borrowings	Dividend payable	Finance lease liabilities	Derivatives that hedge borrowings
Beginning	<u>₩5,110,424</u>	<u>16,630,792</u>	<u>4,046</u>	<u>778,014</u>	<u>107,982</u>
Changes from financing cash flows	1,764,569	415,692	(1,234,899)	(268,082)	102,973
Changes arising from obtaining or losing control of subsidiaries or other business	—	—	—	—	—
The effect of changes in foreign exchange rates	(41,873)	497,830	—	(96,771)	—
Changes in fair values	—	(85,790)	—	—	(19,458)
Other changes:					
Decrease in retained earnings	—	—	1,138,107	—	—
Decrease in non-controlling interest	—	—	97,117	—	—
Interest expenses	—	14,018	—	34,935	—
Increase in lease assets	—	—	—	375,386	—
Ending	<u>₩6,833,120</u>	<u>17,472,542</u>	<u>4,371</u>	<u>823,482</u>	<u>191,497</u>

2) December 31, 2021

(in millions of Won)

	Liabilities				
	Short-term borrowings	Long-term borrowings	Dividend payable	Finance lease liabilities	Derivatives that hedge borrowings
Beginning	<u>₩5,194,395</u>	<u>15,303,212</u>	<u>2,703</u>	<u>739,675</u>	<u>178,988</u>
Changes from financing cash flows	(329,897)	639,414	(1,327,414)	(281,288)	(11,338)
Changes arising from obtaining or losing control of subsidiaries or other business	—	41,359	—	—	—
The effect of changes in foreign exchange rates	245,926	689,078	—	57,814	—
Changes in fair values	—	(54,057)	—	—	(59,668)
Other changes:					
Decrease in retained earnings	—	—	1,259,272	—	—
Decrease in non-controlling interest	—	—	69,485	—	—
Interest expenses	—	11,786	—	22	—
Increase in lease assets	—	—	—	261,791	—
Ending	<u>₩5,110,424</u>	<u>16,630,792</u>	<u>4,046</u>	<u>778,014</u>	<u>107,982</u>



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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, 2022, the Company changed its internal organization and internal reporting structures. As a result, operating segments were re-categorized 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, 2021 to conform to the 2022 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 revised operating segments and their main business are as follows:

Operating segments		Main Business
Steel		Manufacture and sale of steel products
Green infrastructure	Construction	Design, production and construction of steel mills and facilities, commercial and residential facilities, etc.
	Trading	Supply and purchase transactions between domestic and foreign companies, resource development
	Energy and others	Power generation, 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, 2022 and 2021 were as follows:

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

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



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2) As of and for the year ended December 31, 2021

① The segment results as previously disclosed are as follows:

(in millions of Won)	Steel	Trading	Construction	Others	Total
External revenues	₩41,093,405	25,065,608	6,398,366	3,774,966	76,332,345
Internal revenues	22,455,511	20,224,841	1,014,148	3,012,917	46,707,417
Inter segment revenues	14,940,813	10,653,742	940,408	2,800,594	29,335,557
Total revenues	63,548,916	45,290,449	7,412,514	6,787,883	123,039,762
Interest income	179,841	30,265	72,830	35,305	318,241
Interest expenses	(313,769)	(100,419)	(39,134)	(61,152)	(514,474)
Depreciation and amortization	(3,000,179)	(343,489)	(69,777)	(271,898)	(3,685,343)
Impairment loss on property, plant and equipment and others	(249,645)	(66,157)	(10)	(36,774)	(352,586)
Share of loss of equity-accounted investees, net	(261,363)	(70,321)	(45,778)	(11,874)	(389,336)
Income tax expense	(2,045,079)	(101,622)	(116,799)	(66,927)	(2,330,427)
Segment profit	6,587,903	324,888	164,276	360,883	7,437,950
Segment total assets	80,953,507	16,373,409	8,136,549	11,923,740	117,387,205
Investment in subsidiaries, associates and joint ventures	16,567,555	2,066,688	538,484	1,195,600	20,368,327
Acquisition of non-current assets	2,194,346	478,278	10,233	928,947	3,611,804
Segment total liabilities	25,714,577	11,049,017	4,451,055	5,379,210	46,593,859

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

(in millions of Won)	Steel	Green Infrastructure			Green materials and Energy	Others	Total
		Construction	Trading	Energy and others			
External revenues	₩41,093,405	6,398,366	25,065,608	2,061,277	1,241,957	471,732	76,332,345
Internal revenues	22,455,511	1,014,148	20,224,841	854,982	847,205	1,310,730	46,707,417
Inter segment revenues	14,940,813	940,408	10,653,742	828,635	843,576	1,284,320	29,491,494
Total revenues	63,548,916	7,412,514	45,290,449	2,916,259	2,089,162	1,782,462	123,039,762
Interest income	179,841	72,830	30,265	12,905	19,073	3,327	318,241
Interest expenses	(313,769)	(39,134)	(100,419)	(47,827)	(9,373)	(3,952)	(514,474)
Depreciation and amortization	(3,000,179)	(69,777)	(343,489)	(142,426)	(84,390)	(45,082)	(3,685,343)
Impairment loss on property, plant and equipment and others	(249,645)	(10)	(66,157)	(25,270)	(11,504)	—	(352,586)
Share of loss of equity-accounted investees, net	(261,363)	(45,778)	(70,321)	(11,874)	—	—	(389,336)
Income tax expense	(2,045,079)	(116,799)	(101,622)	(37,970)	(10,698)	(18,259)	(2,330,427)
Segment profit	6,587,903	164,276	324,888	182,739	111,756	66,388	7,437,950
Segment total assets	80,953,507	8,136,549	16,373,409	5,459,441	4,692,597	1,771,702	117,387,205
Investment in subsidiaries, associates and joint ventures	16,567,555	538,484	2,066,688	886,318	188,532	120,750	20,368,327
Acquisition of non-current assets	2,194,346	10,233	478,278	152,445	661,376	115,126	3,611,804
Segment total liabilities	25,714,577	4,451,055	11,049,017	3,124,777	1,519,026	735,407	46,593,859

(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)	2022	2021
Total revenue for reportable segments	₩141,108,702	123,039,762
Elimination of inter-segment revenue	(56,358,498)	(46,707,417)
	₩ 84,750,204	76,332,345

2) Profit

(in millions of Won)	2022	2021
Total profit for reportable segments	₩1,690,991	7,437,950
Goodwill and corporate FV adjustments	(68,771)	(62,500)
Elimination of inter-segment profit	1,938,263	(179,560)
Income tax expense	453,883	2,220,183
Profit before income tax expense	₩4,014,366	9,416,073



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3) Assets

<i>(in millions of Won)</i>	2022	2021
Total assets for reportable segments	₩155,401,722	117,387,205
Investment in subsidiaries, associates and joint ventures	(46,559,264)	(15,532,200)
Goodwill and corporate FV adjustments	2,366,408	2,411,729
Elimination of inter-segment assets	(12,802,085)	(12,795,120)
	<u>₩ 98,406,781</u>	<u>91,471,614</u>

4) Liabilities

<i>(in millions of Won)</i>	2022	2021
Total liabilities for reportable segments	₩ 50,114,430	46,593,859
Goodwill and corporate FV adjustments	215,760	236,833
Elimination of inter-segment liabilities	(10,180,810)	(10,164,021)
	<u>₩ 40,149,380</u>	<u>36,666,671</u>

5) Other significant items

a) December 31, 2022

<i>(in millions of Won)</i>	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)

b) December 31, 2021

<i>(in millions of Won)</i>	Total segment	Goodwill and corporate FV adjustments	Elimination of inter-segment transactions	Consolidated
Interest income	₩ 318,241	—	(25,999)	292,242
Interest expenses	(514,474)	605	74,044	(439,825)
Depreciation and amortization	(3,685,343)	(88,927)	194,824	(3,579,446)
Share of profit of equity-accounted investees, net	(389,336)	—	1,038,905	649,569
Income tax expense	(2,330,427)	25,719	84,525	(2,220,183)
Impairment loss on property, plant and equipment and others	(352,586)	—	(183,262)	(535,848)



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(e) Revenue by geographic area for the years ended December 31, 2022 and 2021 was as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Domestic	₩ 54,519,647	49,732,699
Japan	2,651,584	2,200,855
China	7,430,619	7,146,695
Indonesia	3,282,888	2,546,732
Asia-other	9,331,724	8,878,781
North America	2,413,054	2,083,309
Europe	2,811,444	2,172,064
Others	2,309,244	1,571,210
	<u>₩ 84,750,204</u>	<u>76,332,345</u>

(f) Non-current assets by geographic area as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Won)</i>	<u>2022</u>	<u>2021</u>
Domestic	₩ 28,623,582	27,806,262
Japan	139,636	155,556
China	1,199,461	1,175,593
Indonesia	3,025,737	2,376,777
Asia-other	1,742,673	1,822,205
North America	323,543	313,356
Europe	282,170	271,035
Others	2,356,875	928,300
	<u>₩ 37,693,677</u>	<u>34,849,084</u>

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.



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42. Business combination

During the year ended December 31, 2022, the Company's subsidiary Senex Holdings Pty Ltd acquired 100% shares in Senex Energy Limited as of April 1, 2022. The acquisition was made to operate a land gas field production and development project in Queensland, eastern Australia, with the expectation of securing natural gas reserves and expanding its market share in eastern Australia.

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

<i>(in millions of Won)</i>	April 1, 2022
Assets	
Cash and cash equivalents	₩ 39,967
Trade accounts, notes receivable and other receivables, net	21,455
Inventories	12,693
Other current assets	3,054
Total current assets	<u>77,169</u>
Other long-term financial assets	1,257
Property, plant and equipment, net	244,058
Intangible assets, net	1,011,517
Total non-current assets	<u>1,256,832</u>
Total assets	<u>₩1,334,001</u>
Liabilities	
Trade accounts and notes payable	₩ 78,027
Short-term borrowings	71,959
Other short-term financial liabilities	14,471
Provisions	343
Other current liabilities	21,544
Total current liabilities	<u>186,344</u>
Other payables	181,913
Long-term borrowings	68,034
Other long-term financial liabilities	1,553
Other non-current liabilities	70,982
Long-term provisions	24,115
Total non-current liabilities	<u>346,597</u>
Total liabilities	<u>₩ 532,941</u>
Net assets	<u>801,060</u>
Share acquisition ratio (%)	<u>100</u>
Net assets acquired	<u>801,060</u>
Consideration paid	<u>801,060</u>

Had Senex Energy Limited been acquired on January 1, 2022, the Company's revenue and



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net income would have been ₩84,788,267 million and ₩3,537,810 million, respectively. Revenue and net income of Senex Energy Limited since the inclusion in consolidation are ₩186,794 million and ₩24,621 million. In addition, ₩3,247 million (2021: ₩1,812 million)-was incurred in relation with the business combination, and the cost was recognized as other administrative expenses in the consolidated statement of comprehensive income.

43. Events after the Reporting Period

On January 12, 2023, POSCO, a subsidiary, issued the 313-1st non-guaranteed bonds (issued amount ₩50 billion), the 313-2nd non-guaranteed bonds (issued amount ₩450 billion), and the 313-3rd non-guaranteed bonds (issued amount ₩200 billion). The maturities of the bonds are January 10, 2025, January 12, 2026, and January 12, 2028. In addition, POSCO issued non-guaranteed senior dollar bonds (issued amount \$2 billion) on January 17, 2023. The maturities of the bonds are January 17, 2026 (\$700 million), January 17, 2028 (\$1 billion), and January 17, 2033 (\$300 million).