LG Chem, Ltd. and Subsidiaries

Consolidated Interim Financial Statements September 30, 2022 and 2021

LG Chem, Ltd. and Subsidiaries Index

September 30, 2022 and 2021

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Report on Review of Interim Financial Statements

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of LG Chem, Ltd.

We have reviewed the accompanying consolidated interim financial statements of LG Chem, Ltd. and its subsidiaries (collectively referred to as the "Group"). These financial statements consist of the consolidated interim statement of financial position of the Group as at September 30, 2022, and the related consolidated interim statements of profit or loss and comprehensive income for the three-month and nine-month periods ended September 30, 2022 and 2021, and consolidated interim statements of changes in equity and cash flows for the nine-month periods ended September 30, 2022 and 2021, and a summary of significant accounting policies and other explanatory notes, expressed in Korean won.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated interim financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS) 1034 *Interim Financial Reporting*, and for such internal control as management determines is necessary to enable the preparation of consolidated interim financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to issue a report on these consolidated interim financial statements based on our review.

We conducted our review in accordance with quarterly or semi-annual review standards established by the Securities and Futures Commission of the Republic of Korea. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Korean Standards on Auditing and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion

Based on our review, nothing has come to our attention that causes us to believe the accompanying consolidated interim financial statements are not presented fairly, in all material respects, in accordance with Korean IFRS 1034 *Interim Financial Reporting*.

Emphasis of Matter

Without modifying our conclusion, we draw attention to Note 4 to the consolidated interim financial statements. Note 4 to the consolidated interim financial statements describes uncertainty relating to the impact of Coronavirus disease 2019 (COVID-19) on the Group's productivity and ability to satisfy customer's orders.

Other Matters

We have audited the consolidated statement of financial position of the Group as at December 31, 2021, and the related consolidated statements of profit or loss, comprehensive income, changes in equity and cash flows for the year then ended, in accordance with Korean Standards on Auditing. We expressed an unqualified opinion on those financial statements, not presented herein, in our audit report dated March 8, 2022. The consolidated statement of financial position as at December 31, 2021, presented herein for comparative purposes, is consistent, in all material respects, with the above audited statement of financial position as at December 31, 2021.

Review standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to review such financial statements may differ from those generally accepted and applied in other countries.

November 14, 2022 Seoul, Korea

This report is effective as of November 14, 2022, the review report date. Certain subsequent events or circumstances, which may occur between the review report date and the time of reading this report, could have a material impact on the accompanying consolidated interim financial statements and notes thereto. Accordingly, the readers of the review report should understand that there is a possibility that the above review report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

LG Chem, Ltd. and Subsidiaries Consolidated Interim Statements of Financial Position September 30, 2022 and December 31, 2021

		September 30, 2022	December 31,
(in millions of Korean won)	Notes	(Unaudited)	2021
Assets			
Current assets			
Cash and cash equivalents	3,5,6	4,911,874	3,760,834
Trade receivables	3,5,7,31	8,957,134	6,386,979
Other receivables	3,5,7,31	5,565,769	1,048,549
Other current financial assets	3,5,8	13,743	23,289
Prepaid income taxes		31,957	156,299
Other current assets	13	999,677	749,032
Inventories	9	12,492,575	8,283,474
Assets held for sale	34	17,306	5,364
Total current assets		32,990,035	20,413,820
Non-current assets			
Trade receivables	3,5,7	107,521	67,055
Other receivables	3,5,7	649,936	713,166
Other non-current financial assets	3,5,8	1,487,313	506,022
Investments in associates and joint ventures	1,10,33	1,105,183	535,310
Deferred tax assets	28	2,116,313	1,905,149
Property, plant and equipment	11	28,050,214	24,378,259
Intangible assets	12	2,617,022	2,444,303
Investment properties	36	54,847	56,297
Other non-current assets	13,16	470,648	115,921
Total non-current assets		36,658,997	30,721,482
Total assets		69,649,032	51,135,302
Liabilities			
Current liabilities			
Trade payables	3,5,31	5,357,036	3,742,132
Other payables	3,5,31	3,582,092	3,991,784
Borrowings	3,5,14	4,741,292	3,477,080
Other current financial liabilities	3,5,8	39,943	-
Provisions	15	887,685	1,572,755
Income tax payables	28	896,335	957,676
Other current liabilities	3,5,17,35	1,396,420	1,320,669
Total current liabilities		16,900,803	15,062,096
Non-current liabilities			
Other payables	3,5	48,951	15,623
Borrowings	3,5,14	12,375,478	11,288,654
Other non-current financial liabilities	3,5,8	83,929	126
Provisions	15	513,578	636,953
Net defined benefit liabilities	13,16	21,789	18,122
Deferred tax liabilities	28	789,271	713,862
Other non-current liabilities	17,35	200,123	189,878
Total non-current liabilities		14,033,119	12,863,218
Total liabilities		30,933,922	27,925,314

LG Chem, Ltd. and Subsidiaries Consolidated Interim Statements of Financial Position September 30, 2022 and December 31, 2021

(in millions of Korean won)	Notes	September 30, 2022 (Unaudited)	December 31, 2021
Equity			
Share capital	1,19	391,406	391,406
Capital surplus		11,377,437	2,696,385
Other components of equity	21	(37,310)	(37,310)
Accumulated other comprehensive income		1,398,732	551,354
Retained earnings	20	19,405,061	18,091,949
Equity attributable to owners of the Parent			
Company		32,535,326	21,693,784
Non-controlling interests		6,179,784	1,516,204
Total equity		38,715,110	23,209,988
Total liabilities and equity		69,649,032	51,135,302

LG Chem, Ltd. and Subsidiaries Consolidated Interim Statements of Profit or Loss Three-Month and Nine-Month Periods Ended September 30, 2022 and 2021

(in millions of Korean won, except per share amounts)

	Notes	Period Ended September 30					
			22 idited)	202 [.] (Unaud			
		Three months		Three months	Nine months		
Revenue	31,33,35	14,177,663	38,012,574	10,597,533	31,664,720		
Cost of sales	23,31	(11,409,716)	(30,221,182)	(7,948,335)	(22,714,435)		
Gross profit		2,767,947	7,791,392	2,649,198	8,950,285		
Selling and administrative expenses	22,23,31	(1,866,761)	(4,986,975)	(1,922,028)	(4,673,350)		
Operating profit	33	901,186	2,804,417	727,170	4,276,935		
Finance income	25	653,788	1,211,634	198,173	528,392		
Finance costs	25	(830,619)	(1,477,737)	(282,610)	(576,271)		
Share of net profit of associates and joint ventures							
accounted for using the equity method	10	(13,652)	(23,323)	259	5,710		
Other non-operating income	26	1,051,286	1,924,806	369,366	752,875		
Other non-operating expenses	27	(836,214)	(1,547,918)	(274,261)	(608,420)		
Profit before income tax	32	925,775	2,891,879	738,097	4,379,221		
Income tax expense	28	(243,007)	(721,608)	(36,933)	(1,067,593)		
Profit from continuing operations		682,768	2,170,271	701,164	3,311,628		
Profit (loss) from discontinued operations	34	31,108	31,142	(21,279)	305,498		
Profit for the period		713,876	2,201,413	679,885	3,617,126		
Profit is attributable to:							
Owners of the Parent Company							
Profit from continuing operations		583,264	1,930,745	631,407	3,101,604		
Profit (loss) from discontinued operations		31,108	31,142	(21,279)	305,498		
		614,372	1,961,887	610,128	3,407,102		
Non-controlling interests							
Profit from continuing operations		99,504	239,526	69,757	210,024		
		99,504	239,526	69,757	210,024		
Earnings per share for profit							
attributable to the equity holders							
of the Parent Company (in won)	29						
Basic and diluted earnings per ordinary share		7,885	25,179	7,832	43,739		
Basic and diluted earnings per preferred share		7,896	25,216	7,843	43,777		
Earnings per share for profit from continuing							
operations attributable to the equity holders							
of the Parent Company (in won)	29						
Basic and diluted earnings per ordinary share		7,485	24,779	8,105	39,817		
Basic and diluted earnings per preferred share		7,498	24,816	8,118	39,854		

LG Chem, Ltd. and Subsidiaries

Consolidated Interim Statements of Comprehensive Income Three-Month and Nine-Month Periods Ended September 30, 2022 and 2021

Notes	Period Ended September 30					
	Three months	Nine months	Three months	Nine months		
	713,876	2,201,413	679,885	3,617,126		
16	432,454	425,770	(2,644)	1,624		
	(10,983)	44	16,637	18,373		
	-	(307)	-	(234)		
	(115,431)	(117,072)	(3,851)	(5,508)		
	797,268	1,284,965	353,931	668,233		
	(15,715)	(33,119)	(4,420)	(15,716)		
	50,000	72 245	7 700	12,712		
	•	•	•	24,409		
	1,138,787	1,596,365	374,199	703,893		
	1,852,663	3,797,778	1,054,084	4,321,019		
	1,440,350	3,095,250	927,786	4,023,524		
	412,313	702,528	126,298	297,495		
		Three months 713,876 16 432,454 (10,983) - (115,431) 797,268 (15,715) 50,099 1,095 1,138,787 1,852,663 1,440,350	2022 (Unaudited) Three months Nine months 713,876 2,201,413 16 432,454 425,770 (10,983) 44 - (307) (115,431) (117,072) 797,268 1,284,965 (15,715) (33,119) 50,099 73,245 1,095 (37,161) 1,138,787 1,596,365 1,852,663 3,797,778 1,440,350 3,095,250	2022 (Unaudited) 2022 (Unaudited) Three months Nine months Three months 713,876 2,201,413 679,885 16 432,454 425,770 (2,644) (10,983) 44 16,637 - (307) - (115,431) (117,072) (3,851) 797,268 1,284,965 353,931 (15,715) (33,119) (4,420) 50,099 73,245 7,709 1,095 (37,161) 6,837 1,138,787 1,596,365 374,199 1,852,663 3,797,778 1,054,084 1,440,350 3,095,250 927,786		

LG Chem, Ltd. and Subsidiaries Consolidated Interim Statements of Changes in Equity Nine-Month Periods Ended September 30, 2022 and 2021

(in millions of Korean won)	nillions of Korean won) Attributable to owners of the Parent Company								
		Accumulated Other other					Non-		
	Notes	Share capital	Capital surplus	components of Equity	comprehensive income (loss)	Retained earnings	Total	controlling interests	Total equity
Balance at January 1,									
2021 Comprehensive		391,406	2,692,485	(54,998)	(165,076)	15,175,304	18,039,121	751,319	18,790,440
income						0.407.400	0.407.400	040.004	0.047.400
Profit for the period Remeasurements of net defined benefit		-	-	-	-	3,407,102	3,407,102	210,024	3,617,126
liabilities Exchange differences on translation of	16	-	-	-	-	1,169	1,169	-	1,169
foreign operations Gain on valuation of		-	-	-	601,173	-	601,173	87,471	688,644
financial assets at fair value through other comprehensive									
income		-	-	-	13,320	-	13,320	-	13,320
Cash flow hedge Others		-	-	-	(11,718) 12,712	(234)	(11,718) 12,478	-	(11,718) 12,478
Total comprehensive			·					007.405	
income for the period				- _	615,487	3,408,037	4,023,524	297,495	4,321,019
Transactions with owners: Disposal of treasury									
shares	19	-	28,344	14,302	-	-	42,646	-	42,646
Dividends Increase in paid-in	30	-	-	-	-	(778,383)	(778,383)	(91,334)	(869,717)
capital of a subsidiary		-	(131)	-	-	- (4.704)	(131)	397,604	397,473
Others Total transactions with					104	(1,781)	(1,677)	(1,588)	(3,265)
owners Balance at September			28,213	14,302	104	(780,164)	(737,545)	304,682	(432,863)
30, 2021 (Unaudited)		391,406	2,720,698	(40,696)	450,515	17,803,177	21,325,100	1,353,496	22,678,596
Balance at January 1, 2022		391,406	2,696,385	(37,310)	551,354	18,091,949	21,693,784	1,516,204	23,209,988
Comprehensive income									
Profit for the period Remeasurements of		-	-	-	-	1,961,887	1,961,887	239,526	2,201,413
net defined benefit liabilities Exchange differences	16	-	-	-	-	286,292	286,292	22,379	308,671
on translation of foreign operations Gain (loss) on		-	-	-	805,681	-	805,681	435,504	1,241,185
valuation of financial assets at fair value through other									
comprehensive income					(1,803)		(1,803)	1,875	72
Cash flow hedge		-	-	-	(21,388)	-	(21,388)	(5,112)	(26,500)
Others					64,888	(307)	64,581	8,356	72,937
Total comprehensive income for the period					847,378	2,247,872	3,095,250	702,528	3,797,778
Transactions with									
owners: Dividends Changes in ownership	30	-	(30,428)	-	-	(935,275)	(965,703)	(125,206)	(1,090,909)
percentage of subsidiaries		-	8,711,480	-	-	-	8,711,480	3,297,254	12,008,734
Increase in paid-in capital of a subsidiary Others				<u> </u>		- 515	- 515	789,140 (136)	789,140 379
Total transactions with owners			8,681,052		<u>-</u> _	(934,760)	7,746,292	3,961,052	11,707,344
Balance at September 30, 2022 (Unaudited)		391,406	11,377,437	(37,310)	1,398,732	19,405,061	32,535,326	6,179,784	38,715,110

The above consolidated interim statements of changes in equity should be read in conjunction with the accompanying notes.

(in millions of Korean won)	Notes	2022 (Unaudited)	2021 (Unaudited)
Cash flows from operating activities		,	,
Cash generated from operations	32	94,447	4,810,871
Interest received		109,100	36,609
Interest paid		(213,069)	(171,479)
Dividends received		5,289	10,016
Income taxes paid		(1,526,575)	(1,129,201)
Net cash inflow (outflow) from operating activities		(1,530,808)	3,556,816
Cash flows from investing activities			
Decrease in other receivables		253,127	686,969
Proceeds from disposal of investments in associates		-	28,466
Proceeds from disposal of other financial assets		39,650	12,024
Proceeds from disposal of property, plant and equipment		79,136	80,770
Proceeds from disposal of intangible assets		21,342	126
Government grants received		120,135	165,347
Net cash inflows from changes in scope of consolidation		49,780	-
Proceeds from disposal of assets held for sale		31,766	53,672
Proceeds from transfer of business		-	906,659
Increase in other receivables		(4,359,609)	(609,610)
Acquisition of investments in associates and joint ventures		(504,022)	(209,132)
Acquisition of other financial assets		(422,304)	(131,951)
Acquisition of property, plant and equipment		(5,955,052)	(4,027,353)
Acquisition of intangible assets		(116,173)	(90,650)
Cash outflows from transfer of business		(8,986)	
Net cash outflow from investing activities		(10,771,210)	(3,134,663)
Cash flows from financing activities			
Proceeds from borrowings		4,340,531	4,468,245
Capital contribution from non-controlling interests		13,409,396	397,604
Settlement of derivative instruments transactions		5,712	-
Repayments of borrowings and others		(3,597,413)	(3,599,837)
Dividends paid		(1,036,815)	(869,717)
Net cash inflow from financing activities		13,121,411	396,295
Net increase in cash and cash equivalents		819,393	818,448
Cash and cash equivalents at the beginning of the period		3,760,834	3,274,250
Effects of exchange rate changes on cash and cash equivalents		331,647	186,343
Cash and cash equivalents at the end of the period in		4 011 074	4 270 044
the consolidated interim statement of financial position		4,911,874	4,279,041

General Information

General information about LG Chem, Ltd. (the Parent Company) and its 61 subsidiaries (collectively referred to as "the Group") is as follows:

1.1 The Parent Company

The Parent Company was spun off on April 1, 2001, from LG Chem Investment Ltd. (now LG Corp., formerly LG Chemical Ltd.).

As at September 30, 2022, the Group has its manufacturing facilities in Yeosu, Daesan, Ochang, Cheongju, Ulsan, Naju, Iksan, Paju, Osong, Onsan, Gimcheon and overseas sites.

The Parent Company is authorized to issue 292 million shares of ordinary shares with par value of \$5,000 per share. As at September 30, 2022, the Parent Company has issued and outstanding 70,592,343 ordinary shares (\$352,962 million) and 7,688,800 preferred shares (\$38,444 million). The largest shareholder of the Parent Company is LG Corp., which owns 33.34% of the Parent Company's ordinary shares. Preferred shareholders have no voting rights but are entitled to receive dividends at a rate 1% more than those paid to ordinary shareholders.

1.2 Business Overview

The Group is engaged in Petrochemicals, Energy solutions, and Advanced materials business, and also engaged in Life Sciences business acquired through a merger with LG Life Sciences, Ltd. in January 2017. In addition, the Parent Company acquired 100% shares of FarmHannong Co., Ltd., in April 2016, which is engaged to manufacture crop protection products, seeds, fertilizers and others.

The Petrochemical business includes production of olefin petrochemicals, such as ethylene, propylene, butadiene from Naphtha, and aromatic petrochemicals such as benzene. It also includes production of synthetic resin and synthetic components from olefin, and aromatic petrochemicals. This business bears characteristics of a large-volume process industry. The Group's major products are PE, PP, BPA, ABS, EP, PVC, plasticizers, acrylic, SAP, synthetic rubber, a special resin, and others.

LG Energy Solution, Ltd. which was established through the split-off of the Energy solution business from the Parent Company on December 1, 2020, and its subsidiaries mainly manufacture and supply batteries ranging from IT & New application batteries for mobile phones and laptop computers, to automotive batteries for electric vehicles and ESS (Energy Storage System) batteries. Demand of small-sized batteries for new applications such as electric tools and electric driving devices as well as traditional IT devices is increasing recently, and the automotive battery business is also expected to expand rapidly due to an increasing demand of the batteries in associated with enhanced environment regulation in developed countries. Demand for ESS is expanding with an increasing importance of efficient usage of electricity and generation of renewable energy.

The Advanced material business manufactures and supplies various kinds of IT materials such as automotive material, OLED film, semiconductor materials, OLED materials, battery materials and others including RO membranes, which will be the next growth engine for future.

The Life Sciences business manufactures and supplies pharmaceutical products, such as human growth hormone 'Eutropin', diabetes drug 'Zemiglo', bovine somatotropin 'Boostin', hyaluronic acid filler 'YVOIRE' and others, as well as fine chemical products, such as herbicide 'PYANCHOR' for rice farming and others.

FarmHannong Co., Ltd. and its subsidiaries which were acquired by the Group in 2016 to manufacture and sell crop protection products, seeds, fertilizers, and others. The crop protection business provides high value products such as environmentally-friendly pesticide. The fertilizer business leads developing a next generation fertilizers such as eco-friendly organic and functional fertilizers, and potting soil. The seed business puts priority on retaining various genetic resources and developing rare breeds with high profit in order to remain competitive in a future food industry.

1.3 Consolidated Subsidiaries, Associates and Joint Ventures

Percentage of ownership held by the Group (%)

	Grou	p (%)	_				
	September 30, 2022	December 31, 2021	Business location	Closing month	Business activities		
Consolidated subsidiaries	•	,					
LG Energy Solution, Ltd. ¹	82	100	Korea	December	Battery manufacturing and sales		
Ningbo LG Yongxing Chemical Co., Ltd. ²	75	75	China	December	ABS/SBL manufacturing and sales		
Ningbo Zhenhai LG Yongxing Trade Co., Ltd. ²	75	75	China	December	ABS sales		
LG Chem America, Inc	100	100	USA	December	Sales and trading		
LG Chemical India Pvt. Ltd. ^{3, 6}	100	100	India	December	Synthetic resin manufacturing and sales		
LG Polymers India Pvt. Ltd. ^{3, 7}	100	100	India	December	PS manufacturing and sales		
LG Chemical (Guangzhou) Engineering Plastics Co.,							
Ltd.	100	100	China	December	EP manufacturing and sales		
LG Chem (Taiwan), Ltd. ⁵	100	100	Taiwan	December	Polarizer manufacturing and sales		
Tianjin LG Bohai Chemical Co., Ltd.	75	75	China	December	PVC, VCM, EDC manufacturing and sales		
Tianjin LG BOTIAN Chemical Co., Ltd.	58	58	China	December	SBS manufacturing and sales		
LG Chem (China) Investment Co., Ltd.4,8	100	100	China	December	China holding company		
LG Chem (Tianjin) Engineering Plastics Co., Ltd.	100	100	China	December	EP manufacturing and sales		
LG Chem Europe GmbH	100	100	Germany	December	Sales and trading		
LG Chem Poland Sp. z o.o.	100	100	Poland	December	EP manufacturing and sales		
LGC Petrochemical India Private Ltd.	100	100	India	December	Synthetic resin manufacturing and sales		
HAENGBOKNURI CO., LTD.	100	100	Korea	December	Facility management and general cleaning		
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	100	100	Turkey	December	Sales and trading		
LG Chem Japan Co., Ltd.	100	100	Japan	December	Sales and trading		
LG NanoH2O, LLC	100	100	USA	December	Water processing membrane sales		
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	100	100	China	December	EP manufacturing and sales		
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	70	70	China	December	ABS manufacturing and sales		
LG Chem Life Sciences India Pvt. Ltd.	100	100	India	December	Pharmaceutical products sales		
LG Jiansheng Chem Life Sciences (Beijing) Co., Ltd.	60	60	China	December	Pharmaceutical products sales		
LG Chem Life Sciences (Thailand) Ltd.	100	100	Thailand	December	Pharmaceutical products sales		
LG Chem Hai Phong Vietnam Co., Ltd.	100	100	Vietnam	December	Polarizer manufacturing and sales		
LG Chem Mexico S.A. de C.V.	100	100	Mexico	December	Sales and trading		
LG Chem Hai Phong engineering Plastics LLC. LG Chem (Guangzhou) Information & Electronics	100	100	Vietnam	December	EP manufacturing and sales		
Materials Co., Ltd. LEYOU NEW ENERGY MATERIALS(WUXI) Co.,	100	100	China	December	Polarizer manufacturing and sales		
LTD.	51	51	China	December	Battery materials manufacturing and sales		
LG Chem Fund I LLC ⁹	100	100	USA	December	Investments in venture companies		
Uniseal,Inc.	100	100	USA	December	Adhesive manufacturing and sales		
LG Chem Life Science Innovation Center, Inc.	100	100	USA	December	Pharmaceutical products research		
LG Chem Asia Pte. Ltd.	100	100	Singapore	December	Asia BSC		
LG Chem China Tech Center ⁴	100	100	China	December	Research on petrochemicals		
Shanjin Optoelectronics (Taiwan) Co., Ltd. ¹⁰	-	100	Taiwan	December	Others		

LG PETRONAS CHEMICALS Malaysia Sdn.Bhd.	51	51	Malaysia	December	NBL manufacturing and sales
LG Chem Hangzhou Advanced Materials Co., Ltd.	70	70	China	December	Polarizer sheet manufacturing and sales
LG BCM	100	100	Korea	December	Battery materials manufacturing and sales
LG Chem Ohio Petrochemical, Inc.	100	100	USA	December	ABS manufacturing and sales
LG Chem VietNam Co.,Ltd.11	100	-	Vietnam	December	Sales and trading
LG Chem Malaysia SDN.BHD.	100	-	Malaysia	December	Sales and trading
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS					
DO SETOR QUIMICO LTDA.	100	-	Brazil	December	Sales and trading
					Agricultural pesticide manufacturing and
FarmHannong Co., Ltd. 14	100	100	Korea	December	sales
Farmhannong America, Inc. ¹⁴	100	100	USA	December	Agricultural pesticide sales
FarmHannong(Thailand) Ltd. ¹⁴	100	100	Thailand	December	Research and development on seeds
FARMHANNONG(MALAYSIA) SDN. BHD. 14	100	100	Malaysia	December	Agricultural pesticide licensing
PT FARM HANNONG INDONESIA 14	100	100	Indonesia	December	Agricultural pesticide licensing
FarmHannong do Brasil Limitada 14	100	100	Brazil	December	Agricultural pesticide sales
LG Energy Solution (Nanjing) Co., Ltd. ¹	82	100	China	December	Battery manufacturing and sales
					Automotive battery research and
LG Energy Solution Michigan Inc. ¹	82	100	USA	December	manufacturing
LG Energy Solution Battery (Nanjing) Co., Ltd. ¹	82	100	China	December	Automotive battery manufacturing and sales
LG Energy Solution Wroclaw sp. z o.o.1	82	100	Poland	December	Automotive battery manufacturing and sales
LG Energy Solution Australia Pty Ltd ¹	82	100	Australia	December	ESS sales
LG Energy Solution Technology (Nanjing) Co., Ltd. ¹	82	100	China	December	Battery manufacturing and sales
Ultium Cells LLC ^{1, 17}	41	50	USA	December	Automotive battery manufacturing and sales
LG Energy Solution Europe GmbH ¹	82	100	Germany	December	Sales and trading
LG Energy Solution (Taiwan), Ltd. ¹	82	100	Taiwan	December	Sales and trading
Aremnuri. Co. Ltd ¹	82	100	Korea	December	Facility management and general cleaning
LG Energy Solution Fund I LLC ¹	82	100	USA	December	Investments in venture companies
LG Energy Solution Vertech Inc. ¹	82	-	USA	December	ESS installation service
ES America, LLC ¹	82	-	USA	December	Battery manufacturing and sales
Baterias De Castilla, S.L. ¹	82	-	Spain	December	Special purpose company
Associates			•		, , , , , ,
					Environment solution and
TECHWIN Co., Ltd.	20	20	Korea	December	construction of chemical plant
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS					
DO SETOR QUIMICO LTDA.	-	100	Brazil	December	Sales and trading
LG Chem Malaysia SDN.BHD.	-	100	Malaysia	December	Sales and trading
LG Chem Life Sciences Poland Ltd. 16	100	100	Poland	December	Pharmaceutical products sales
HUAJIN NEW ENERGY					
MATERIALS(QUZHOU)CO., LTD.	49	49	China	December	Battery materials manufacturing and sales
TL Chemical CO., Ltd	40	40	Korea	December	AN manufacturing and sales
KOREA PRECURSOR CO.,LTD. ¹³	49	-	Korea	December	Battery materials manufacturing and sales
VINFAST LITHIUM BATTERY PACK LLC. 1	29	35	Vietnam	December	Battery manufacturing and sales
Jiangxi VL Battery., Ltd. ¹	28	34	China	December	Battery manufacturing and sales
Joint ventures 15					
VINA Plasticizers Chemical Co.,Ltd.	50	50	Vietnam	December	DOP production and sales Plant utility and distribution, research
SEETEC Co., Ltd.	50	50	Korea	December	assistance service
LG Toray Hungary Battery Separator Kft. ¹²	50	-	Hungary	December	Battery separator manufacturing and sales
PT.HLI Greenpower Co., Ltd. ¹	41	50	Indonesia		Automotive battery manufacturing and sales
0.00.1po.1101 00., L.u.	• • •	00	masmosia	2000111001	Jane Dattory manufacturing and Sales

¹ During the nine-month period ended September 30, 2022, LG Energy Solution, Ltd. was listed on Korea Composite Stock Price Index (KOSPI) and its percentage of ownership to LG Energy Solution, Ltd. decreased since the Parent Company sold the shares of LG Energy Solution, Ltd.

- As at September 30, 2022, LG Energy Solution, Ltd. owns shares in subsidiaries, associates and joint ventures such as LG Energy Solution (Nanjing) Co., Ltd. and other.
- ² As at September 30, 2022, Ningbo LG Yongxing Chemical Co., Ltd. owns 100% of Ningbo Zhenhai LG Yongxing Trading Co., Ltd.'s shares.
- ³ As at September 30, 2022, LG Chemical India Pvt. Ltd. owns 100% of LG Polymers India Pvt. Ltd.'s shares.
- ⁴ As at September 30, 2022, LG Chem (China) Investment Co., Ltd. owns 100% of LG Chem China Tech Center's shares.
- ⁵ During the nine-month period ended September 30, 2022, LG Chem (Taiwan), Ltd. decreased its capital with consideration of ₩17 million.
- ⁶ During the nine-month period ended September 30, 2022, the Parent Company additionally acquired shares of LG Chemical India Pvt. Ltd. for ₩30,789 million.
- ⁷ During the nine-month period ended September 30, 2022, the Parent Company additionally acquired shares of LG Polymers India Pvt. Ltd. for ₩17,820 million.
- ⁸ During the nine-month period ended September 30, 2022, LG Chem (China) Investment Co., Ltd. decreased its capital with consideration of ₩240.480 million.
- ⁹ During the nine-month period ended September 30, 2022, the Parent Company additionally acquired shares of LG CHEM FUND I LLC for ₩18,684 million and decreased its capital with consideration of ₩6,833 million.
- ¹⁰ During the nine-month period ended September 30, 2022, the Parent Company disposed 100% shares of Shanjin Optoelectronics (Taiwan) Co., Ltd.
- ¹¹LG Chem Vietnam Co., Ltd. was newly established during the nine-month period ended September 30, 2022, and the Parent Company newly acquired 100% shares of LG Chem Vietnam Co., Ltd. for ₩359 million.
- ¹² During the nine-month period ended September 30, 2022, the Parent Company additionally acquired 50% shares of LG Toray Hungary Battery Separator Kft. for ₩522,424 million.
- ¹³ KOREA PRECURSOR CO.,LTD. was newly established during the nine-month period ended September 30, 2022, and the Parent Company newly acquired 49% shares of KOREA PRECURSOR CO.,LTD. for ₩20,384 million.
- ¹⁴ As at September 30, 2022, FarmHannong Co., Ltd. owns 100% of Farmhannong America, Inc., FarmHannong(Thailand) Ltd., FARMHANNONG(MALAYSIA) SDN.BHD., and PT FARM HANNONG INDONESIA's shares.
- ¹⁵ All joint arrangements over which the Group has joint control are classified as a joint venture since the joint arrangements are structured through a separate vehicle and the parties have rights to the net assets of the arrangement.
- ¹⁶ Classified as an investment in associate due to its small size.
- ¹⁷ The Group possesses control over Ultium Cells LLC as the Group can exercise the majority voting rights in its decision-making process and has the ability to use power to affect the returns of the investee through its involvement in the production and cost management and other activities in accordance with the shareholders' agreement.

1.4 Summarized Financial Information of Subsidiaries, Associates and Joint Ventures

Summarized financial information (before the adjustments such as elimination of intercompany transactions, adjustments for differences in accounting policies, etc.) of subsidiaries, associates and joint ventures is as follows:

(in millions of Korean won)	Sej	otember 30, 20	2022		
			_	Profit (loss)	
Subsidiaries	Assets	Liabilities	Equity	Revenue	for the period
LG Energy Solution, Ltd. and its subsidiaries ¹	39,888,262	18,724,891	21,163,371	17,061,066	504,258
Ningbo LG Yongxing Chemical Co.,Ltd.	1,247,660	361,116	886,544	1,737,216	114,693
Ningbo Zhenhai LG Yongxing Trade Co.,Ltd.	7,911	1,020	6,891	21,174	388
LG Chem America, Inc.	546,819	494,248	52,571	1,060,989	1,389
LG Chemical India Pvt. Ltd.	65,073	494,240	65,009	1,000,909	(150)
LG Polymers India Pvt. Ltd.	61,355	37,371	23,984	- 2,111	(3,858)
LG Chemical (Guangzhou) Engineering Plastics	01,333	37,371	23,904	2,111	(3,636)
Co.,Ltd.	110,325	34,273	76,052	169,659	1,431
LG Chem (Taiwan), Ltd. ⁴	142,746	80,365	62,381	35,955	45,160
Tianjin LG Bohai Chemical Co.,Ltd.	520,427	71,314	449,113	491,681	55,276
Tianjin LG BOTIAN Chemical Co.,Ltd.	63,301	31,527	31,774	130,016	3,044
LG Chem (China) Investment Co.,Ltd.	1,028,917	629,722	399,195	58,924	6,916
LG Chem (Tianjin) Engineering Plastics Co.,Ltd.	58,968	8,220	50,748	61,431	4,064
LG Chem Europe GmbH	497,105	413,731	83,374	817,458	9,949
LG Chem Poland Sp. z o.o.	284,609	191,103	93,506	249,114	5,957
LGC Petrochemical India Private Ltd.	6,100	1,110	4,990	4,675	600
HAENGBOKNURI CO., LTD.	4,254	1,251	3,003	6,752	(116)
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	13,782	13,684	98	71,436	35
LG Chem Japan Co.,Ltd.	5,293	1,161	4,132	4,200	551
LG NanoH2O, LLC	62,136	20,118	42,018	54,211	5,560
LG Chem (Chongqing) Engineering Plastics	02,130	20,110	42,010	54,211	3,300
Co.,Ltd.	47,318	8,115	39,203	54,980	2,730
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	593,640	123,960	469,680	742,871	18,664
LG Chem Life Sciences India Pvt. Ltd.	3,961	2,763	1,198	4,895	132
LG Jiansheng Life Sciences (Beijing) Co.,Ltd.	25,928	26,803	(875)	27,230	(6,006)
LG Chem Life Sciences (Thailand) Ltd.	30,814	14,452	16,362	31,702	560
LG Chem Hai Phong Vietnam Company Ltd.	18,961	4,897	14,064	15,253	2,178
LG Chem Mexico S.A. de C.V.	2,330	326	2,004	2,275	328
LG Chem Hai Phong Engineering Plastics Ltd.	34,736	16,117	18,619	27,588	353
LG Chem (Guangzhou) Information & Electronics	54,750	10,117	10,013	27,500	000
Materials Co.,Ltd.	312,177	87,135	225,042	148,607	1,439
LEYOU NEW ENERGY MATERIALS(WUXI)	312,177	07,100	220,042	140,007	1,400
Co.,LTD	1,613,704	839,911	773,793	1,656,768	295,965
LG Chem Fund I LLC	73,531	31	73,500	1,030,700	(2,201)
Uniseal,Inc.	53,994	12,187	41,807	68,358	3,170
LG Chem Life Science Innovation Center, Inc.	5,064	1,575	3,489	6,258	633
LG Chem Asia Pte. Ltd.	111,606	110,415	1,191	3,045	215
LG Chem China Tech Center	37,964	1,002	36,962	3,373	557
Shanjin Optoelectronics (Taiwan) Co., Ltd. ^{3,4}	37,304	1,002	30,302	3,373	56
LG PETRONAS CHEMICALS Malaysia Sdn.Bhd.	203,393	126,184	77,209		(1,780)
LG Chem Hangzhou Advanced Materials Co., Ltd.	54,915	18,502	36,413	67,693	28
LG BCM	77,459	26,997	50,462	07,095	(2,351)
LG Chem Ohio Petrochemical, Inc.	27,721	689	27,032	-	(252)
LG Chem VietNam Co.,Ltd	978	492	486	726	(232) 71
LG Chem Malaysia SDN.BHD.	865	199	666	1,408	91
LG Chem BRASIL INTERMEDIACAO DE	1,506	256	1,250	2,094	454
LO CHOIL DIVAGIL IN LEVINEDIACAO DE	1,500	200	1,200	2,094	404

NEGOCIOS DO SETOR QUIMICO LTDA.					
FarmHannong Co., Ltd. ¹	1,185,776	727,992	457,784	657,965	67,150
Associates					
TECHWIN Co., Ltd.	126,325	44,533	81,792	48,351	(9,108)
LG Life Sciences Poland Ltd.	253	105	148	122	30
KOREA PRECURSOR CO.,LTD. ²	41,363	78	41,285	-	(102)
HUAJIN NEW ENERGY					
MATERIALS(QUZHOU)CO., LTD.	468,805	273,092	195,713	360,929	(5,351)
TL Chemical CO., Ltd	118,942	155	118,787	-	(2,350)
VINFAST LITHIUM BATTERY PACK LLC.	19,070	9,550	9,520	8,830	(2,739)
Jiangxi VL Battery.,Ltd	98,662	49,560	49,102	1,452	(14,087)
Joint ventures					
Vina Plasticizer Chemical Co.,Ltd.	82,522	51,433	31,089	140,475	609
SEETEC Co., Ltd.	324,015	49,793	274,222	515,425	8,184
LG Toray Hungary Battery Separator Kft. ²	797,157	1,095	796,062	38	3,730
PT.HLI Green Power	535,411	29,143	506,268	-	(4,113)

(in millions of Korean won)	De	cember 31, 202	2021		
	Assets	Liabilities	Equity	Revenue	Profit (loss) for the period
Subsidiaries					
LG Energy Solution, Ltd. 1,4	23,764,139	15,021,765	8,742,374	13,412,543	858,057
Ningbo LG Yongxing Chemical Co.,Ltd.	1,394,894	258,879	1,136,015	1,913,355	409,160
Ningbo Zhenhai LG Yongxing Trade Co.,Ltd.	6,787	735	6,052	20,422	387
LG Chem America, Inc.	408,469	366,034	42,435	736,229	18,270
LG Chemical India Pvt. Ltd.	32,799	35	32,764	-	13
LG Polymers India Pvt. Ltd.	44,118	36,206	7,912	8,563	(7,473)
LG Chemical (Guangzhou) Engineering Plastics					
Co.,Ltd.	119,231	42,590	76,641	201,633	7,469
LG Chem (Taiwan), Ltd. ⁴	109,772	35,905	73,867	30,910	2,123
LG Chem Display Materials (Beijing) Co.,Ltd.3,4	-	-	-	-	276
Tianjin LG Bohai Chemical Co.,Ltd.	530,055	127,935	402,120	477,442	98,657
Tianjin LG BOTIAN Chemical Co.,Ltd.	46,289	19,597	26,692	98,758	864
LG Chem (China) Investment Co.,Ltd.	1,371,751	679,206	692,545	44,367	4,762
LG Chem (Tianjin) Engineering Plastics Co.,Ltd.	56,898	12,011	44,887	58,366	2,843
LG Chem Europe GmbH	358,459	288,909	69,550	462,688	13,875
LG Chem Poland Sp. z o.o.	222,263	133,527	88,736	124,245	15,149
LGC Petrochemical India Private Ltd.	4,918	988	3,930	3,017	337
HAENGBOKNURI CO., LTD.	4,503	1,385	3,118	7,002	503
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	10,416	10,685	(269)	30,509	(310)
LG Chem Japan Co.,Ltd.	5,109	1,391	3,718	4,513	(891)
LG NanoH2O, LLC	44,449	14,978	29,471	40,648	3,272
LG Chem (Chongqing) Engineering Plastics					
Co.,Ltd.	49,879	15,955	33,924	60,052	3,209
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	574,744	155,233	419,511	786,720	149,959
LG Chem Life Sciences India Pvt. Ltd.	3,191	2,242	949	3,808	272
LG Jiansheng Life Sciences (Beijing) Co.,Ltd.	11,742	6,854	4,888	3,248	(197)
LG Chem Life Sciences (Thailand) Ltd.	25,708	10,875	14,833	23,935	1,180
LG Chem Hai Phong Vietnam Company Ltd.	14,571	4,458	10,113	21,338	1,396
LG Chem Mexico S.A. de C.V.	1,619	267	1,352	1,465	214
LG Chem Hai Phong Engineering Plastics Ltd.	31,476	15,698	15,778	25,935	2,038
LG Chem (Guangzhou) Information & Electronics					
Materials Co.,Ltd. ⁴	317,592	109,131	208,461	126,582	(10,958)
LEYOU NEW ENERGY MATERIALS(WUXI)					
Co.,LTD	608,961	172,607	436,354	490,366	50,730

LG Chem Fund I LLC	45,922	9	45,913	_	(2,089)
Ugimag Korea Co., Ltd. ^{3,4}	-	-	-	11,512	(3,838)
Uniseal,Inc.	38,635	6,932	31,703	48,481	(11)
LG Chem Life Science Innovation Center, Inc.	3,446	1,153	2,293	3,881	293
LG Chem Asia Pte. Ltd.	2,927	2,079	848	919	(30)
LG Chem China Tech Center	34,327	390	33,937	259	133
Shanjin Optoelectronics (Taiwan) Co., Ltd. ⁴	59,149	5	59,144	-	(12)
LG PETRONAS CHEMICALS Malaysia Sdn.Bhd.	123,502	50,961	72,541	-	105
LG Chem Hangzhou Advanced Materials Co., Ltd.	112,892	78,981	33,911	-	-
LG BCM	54,412	1,599	52,813	-	-
LG Chem Ohio Petrochemical, Inc.	24,132	1,578	22,554	-	-
FarmHannong Co., Ltd. ¹	1,047,277	657,687	389,590	543,388	21,068
Associates					
TECHWIN Co., Ltd.	142,066	51,893	90,173	54,658	2,219
LG Chem BRASIL INTERMEDIACAO DE					
NEGOCIOS DO SETOR QUIMICO LTDA.	729	91	638	1,166	110
LG Chem Malaysia SDN.BHD.	525	2	523	495	61
FJ Composite Material Co., Ltd.	-	-	-	1,441	265
WUXI CL New Energy Technology Ltd.3	-	-	-	-	(86)
LG Chem Life Sciences Poland Ltd.	188	70	118	129	6
Combustion Synthesis Co., Ltd.3	-	-	-	75	(218)
HUAJIN NEW ENERGY					
MATERIALS(QUZHOU)CO., LTD.	422,366	229,745	192,621	62,459	(6,578)
TL Chemical CO., Ltd	121,551	369	121,182	-	-
VINFAST LITHIUM BATTERY PACK LLC.	17,496	6,295	11,201	9,504	(1,273)
Jiangxi VL Battery.,Ltd	76,495	16,799	59,696	5,506	(5,468)
Joint ventures					
VINA Plasticizer Chemical Co., Ltd.	64,237	39,721	24,516	133,037	12,842
SEETEC Co., Ltd.	328,396	52,384	276,012	414,652	10,136
HL Greenpower Co., Ltd. ³	-	-	-	537,684	1,374
PT.HLI Green Power	404,131	1,156	402,975	-	323

¹ The information is represented on basis of the consolidated financial information.

² The information of revenue and profit or loss for the period represents the financial performance after the acquisition of shares.

³ The entities were disposed during the nine-month periods ended September 30, 2022 and 2021, and the information of revenue and profit or loss for the period represents the financial performance before the disposal.

⁴ LCD polarizer business, etc. of these entities was classified as discontinued operations and profit or loss from the business was included in profit from discontinued operations.

1.5 Information of Non-Controlling Interests that are Material to the Group

(a) LG Energy Solution and its subsidiaries

Percentage of ownership held by non-controlling interests and accumulated non-controlling interests

(in millions of Korean won)

September 30, 2022

Percentage of ownership held by non-controlling interests Accumulated non-controlling interests 18.2% 5,350,011

- Profit and dividends attributable to non-controlling interests for the nine-month period ended September 30, 2022, are as follows:

(in millions of Korean won)

2022

Profit allocated to non-controlling interests Dividends paid to non-controlling interests 88,667

 Summarized consolidated statements of financial positions of subsidiaries with material noncontrolling interests, are as follows (before elimination of intercompany transaction):

Current assets 39,888,262 Non-current assets 21,248,428 Total assets 18,639,834 Current liabilities 18,724,891 Non-current liabilities 12,797,719 Total liabilities 5,927,172 Total equity 21,163,371	(in millions of Korean won)	September 30, 2022
Total assets 18,639,834 Current liabilities 18,724,891 Non-current liabilities 12,797,719 Total liabilities 5,927,172	Current assets	39,888,262
Current liabilities 18,724,891 Non-current liabilities 12,797,719 Total liabilities 5,927,172	Non-current assets	21,248,428
Non-current liabilities 12,797,719 Total liabilities 5,927,172	Total assets	18,639,834
Non-current liabilities 12,797,719 Total liabilities 5,927,172		
Total liabilities 5,927,172	Current liabilities	18,724,891
	Non-current liabilities	12,797,719
Total equity 21,163,371	Total liabilities	5,927,172
	Total equity	21,163,371

- Summarized consolidated statements of comprehensive income of subsidiaries with material non-controlling interests for the nine-month period ended September 30, 2022, are as follows (before elimination of intercompany transaction):

(in millions of Korean won) 2022

Revenue 17,061,066
Profit for the period 504,258
Total comprehensive income 1,572,667

- Summarized consolidated statements of cash flows of subsidiaries with material non-controlling interests for the nine-month period ended September 30, 2022, are as follows (before elimination of intercompany transaction):

(in millions of Korean won)	2022
Cash flows from operating activities	(1,427,127)
Cash flows from investing activities	(8,723,543)
Cash flows from financing activities	10,857,724
Net increase in cash and cash equivalents	707,054
Cash and cash equivalents at beginning of the period	1,282,880
Effects of exchange rate changes on cash and cash equivalents	199,540
Cash and cash equivalents at end of the period	2,189,474

1.6 Changes in Scope for Consolidation

Subsidiary

Subsidiaries newly included in the consolidation for the nine-month period ended September 30, 2022, are as follows:

Rassan

Subsidially	Reason
LG Energy Solution Vertech Inc.	Newly acquired
LG Chem VietNam Co.,Ltd	Newly established
ES America, LLC	Newly established
Baterias De Castilla, S.L.	Newly acquired

Subsidiary excluded from the consolidation for the nine-month period ended September 30, 2022, is as follows:

Subsidiary	Reason
Shanjin Optoelectronics (Taiwan) Co., Ltd.	Disposed

1. Summary of Significant Accounting Policies

The principal accounting policies applied in the preparation of these consolidated interim financial statements are set out below. These policies have been consistently applied to all the periods presented, unless otherwise stated.

2.1 Basis of Preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated interim financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

The Group's consolidated interim financial statements for the nine-month period ended September 30, 2022, have been prepared in accordance with Korean IFRS 1034 *Interim Financial Reporting*. These consolidated interim financial statements have been prepared in accordance with Korean IFRS which is effective or early adopted as at September 30, 2022.

(a) New and amended standards adopted by the Group

The Group has applied the following standards for the first time for their annual reporting period commencing January 1, 2022.

- Amendment to Korean IFRS 1116 Leases - Covid-19 - Related Rent Concessions beyond September 30, 2021

The application of the practical expedient, a lessee may elect not to assess whether a rent concession occurring as a direct consequence of the COVID-19 pandemic is a lease modification, is extended to lease payments originally due on or before September 30, 2022. A lessee shall apply the practical expedient consistently to eligible contracts with similar characteristics and in similar circumstances. The amendment does not have a significant impact on the consolidated interim financial statements.

- Amendments to Korean IFRS 1103 Business Combination – Reference to the Conceptual Framework

The amendments update a reference of definition of assets and liabilities to be recognized in a business combination in revised Conceptual Framework for Financial Reporting. However, the amendments add an exception for the recognition of liabilities and contingent liabilities within the scope of Korea IFRS 1037 *Provisions, Contingent Liabilities and Contingent Assets*, and Korean IFRS 2121 *Levies*. The amendments also clarify that contingent assets should not be recognized at the acquisition date. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The amendment does not have a significant impact on the consolidated interim financial statements.

- Amendments to Korean IFRS 1016 Property, Plant and Equipment - Proceeds before intended use

The amendments prohibit an entity from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while the entity is preparing the asset for its intended use. Instead, the entity will recognize the proceeds from selling such items, and the costs of producing those items, in profit or loss. The amendment does not have a significant impact on the consolidated interim financial statements.

- Amendments to Korean IFRS 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 amendment does not have a significant impact on the consolidated interim financial statements.

- Annual improvements to Korean IFRS 2018-2020

Annual improvements of Korean IFRS 2018-2020 Cycle should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted. The amendment does not have a significant impact on the consolidated interim financial statements.

- Korean IFRS 1101 First time Adoption of Korean International Financial Reporting Standards – Subsidiaries that are first-time adopters
- Korean IFRS 1109 Financial Instruments Fees related to the 10% test for derecognition of financial liabilities

- · Korean IFRS 1041 Agriculture Measuring fair value
- (b) New and amended standards not yet adopted by the Group

The following new and amended accounting standards and interpretations that have been published that are not mandatory for September 30, 2022 reporting periods and have not been early adopted by the Group.

- Amendments to Korean IFRS 1001 Presentation of Financial Statements - Classification of Liabilities as Current or Non-current

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the expectations of management. Also, the settlement of liability includes the transfer of the entity's own equity instruments, however, it would be excluded if an option to settle them by the entity's own equity instruments if compound financial instruments is met the definition of equity instruments and recognized separately from the liability. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group is in review for the impact of these amendments on the consolidated interim financial statements.

- Korean IFRS 1001 Presentation of Financial Statements - Disclosure of Accounting Policies

The amendments to Korean IFRS 1001 define and require entities to disclose their material accounting policies. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group is in review for the impact of these amendments on the consolidated interim financial statements.

- Korean IFRS 1008 Accounting policies, changes in accounting estimates and errors - Definition of Accounting Estimates

The amendments define accounting estimates and clarify how to distinguish them from changes in accounting policies. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated interim financial statements.

- Korean IFRS 1012 Income Taxes - Deferred Tax related to Assets and Liabilities arising from a Single Transaction

The amendments include an additional condition to the exemption to initial recognition of an asset or liability that a transaction does not give rise to equal taxable and deductible temporary differences at the time of the transaction. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated interim financial statements.

- New Standard: Korean IFRS 1117 Insurance Contract

Korean IFRS 1117 *Insurance Contracts* replaces Korean IFRS 1104 *Insurance Contracts*. This Standard estimates future cash flows of an insurance contract and measures insurance liabilities using discount rates applied with assumptions and risks at the measurement date. The entity recognizes insurance revenue on an accrual basis including services (insurance coverage) provided to the policyholder by each annual period. In addition, investment components (Refunds due to termination/maturity) repaid to a policyholder even if an insured event does not occur, are excluded from insurance revenue, and insurance financial income or expense and the investment income or expense are presented separately to enable users of the information to understand the sources of income or expenses. This Standard should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted for entities that applied Korean IFRS 1109 *Financial Instruments*. The Group does not expect that these amendments have a significant impact on the consolidated interim financial statements.

2.2 Significant Accounting Policies

Significant accounting policies and method of computation used in the preparation of the condensed consolidated interim financial statements are consistent with those of the consolidated financial statements for the year ended December 31, 2021, except for the changes due to the application of amendment and enactments of standards described in Note 2.1.(a) and the ones described below.

2.2.1 Income Tax Expense

Income tax expense for the interim period is recognized based on management's best estimate of the weighted average annual income tax rate expected for the full financial year. The estimated average annual tax rate is applied to the pre-tax income.

2. Financial Risk Management

3.1 Financial Risk Factors

The Group's activities expose it to a variety of financial risks: market risk, credit risk and liquidity risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the financial performance of the Group. The Group uses derivative financial instruments to hedge certain risk exposures.

Risk management is carried out by the Group's finance team under policies approved by the Corporate Management Committee. The finance team identifies, evaluates and hedges financial risks in close co-operation with the Group's operating units. The Corporate Management Committee reviews and approves written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, and credit risk, use of derivative financial instruments and non-derivative financial instruments, investment of excess liquidity.

(1) Market risk

1) Foreign exchange risk

The Group operates internationally and is exposed to foreign exchange risk arising from foreign currency exposures, primarily with respect to the US dollar. Foreign exchange risk arises from future commercial transactions, recognized assets and liabilities.

Management has set up a policy to require group companies to manage their foreign exchange

risk against their functional currency. The Group manages maximum loss for currency risk exposures within acceptable range by using currency risk management model and hires employees who are exclusively responsible for currency risk management.

As at September 30, 2022 and December 31, 2021, the Group's monetary assets and liabilities denominated in currencies other than its functional currency, are as follows:

(in millions of Korean won)	September	30, 2022	December 31, 2021		
	Assets	Liabilities	Assets	Liabilities	
USD	5,811,414	9,765,271	5,708,219	6,488,454	
EUR	491,242	5,473,811	441,123	4,937,370	
JPY	5,969	153,411	18,315	96,238	
CNY and others	389,735	9,281	523,907	4,131	

As at September 30, 2022 and December 31, 2021, if the Group's functional currency had weakened / strengthened by 10% against the US dollar and Euro with all other variables held constant, profit before income tax would have been affected as follows:

(in millions of Korean won)	Septembe	er 30, 2022	December 31, 2021		
	10% Increase	10% Decrease	10% Increase	10% Decrease	
USD	(186,055)	186,055	(42,976)	42,976	
EUR	(459,538)	459,538	(426,735)	426,735	

The above sensitivity analysis has been performed for monetary assets and liabilities denominated in foreign currencies other than the Group's functional currency at the reporting date.

As at September 30, 2022 and December 31, 2021, the Group entered into foreign currency forward and currency swap contracts to manage risk from changes in exchange rates and the details are as follows:

(in millions of Korean won and in millions of US dollars)

			Sept	ember 30, 202	22		
		Contract	Contract	Contract	Contract	Book a	mount
	Contractor			inception date	Contract maturity	Assets	Liabilities
Currency	Citi	USD 105	1,234.60	2022.4.22	2023.2.1	-	20,035
Forward	Industrial and Commercial Bank of China	USD 158	1,218.70	2022.4.22	2024.2.1	-	29,869
	Shinhan Bank	USD 500	1,135.60	2020.10.14	2024.10.15	125,363	-
	KB Kookmin Bank	USD 500	1,102.83	2020.11.24	2029.4.16	117,359	-
	ING	EUR 100	4.7120^{1}	2021.10.22	2022.10.21	5,201	-
	ING	EUR 100	4.7800 ¹	2022.1.5	2023.1.5	5,969	-
Currency swap	SMBC	USD 200	1,118.00	2021.5.28	2024.5.28	54,820	-
	KDB Bank	USD 130	1,135.60	2021.6.24	2025.6.24	49,734	-
	KDB Bank	USD 35	1,135.60	2021.6.24	2026.6.24	14,476	-
	Shinhan Bank	USD 300	1,131.80	2021.7.7	2026.7.7	74,674	-

LG Chem, Ltd. and Subsidiaries
Notes to the Consolidated Interim Financial Statements
September 30, 2022 and 2021 (Unaudited), and December 31, 2021

Woori Bank	USD 100	1,131.80	2021.7.7	2026.7.7	25,077	-
Industrial and Commercial Bank of China	USD 100	1,131.80	2021.7.7	2026.7.7	25,019	-
Shinhan Bank	USD 100	1,131.80	2021.7.7	2031.7.7	24,047	-
Woori Bank	USD 200	1,131.80	2021.7.7	2031.7.7	48,377	-
KDB Bank	USD 200	1,131.80	2021.7.7	2031.7.7	48,565	-
KDB Bank	USD 250	1,289.70	2022.6.15	2025.6.15	39,527	-
Shinhan Bank	USD 110	1,289.70	2022.6.15	2027.6.15	18,281	-
The Export- Import Bank of Korea	USD 200	1,305.90	2022.7.14	2025.7.14	24,687	-
Shinhan Bank	USD 100	1,305.90	2022.7.14	2025.7.14	12,492	-

(in millions of Korean won and in millions of US dollars)

D		24	2024	
Dece	mber	.51.	ZUZT	

tractor ar		ontract cchange rate	Contract inception	Contract	Book a	mount
tractor ar		•	•	Contract		
Donk II			date	maturity	Assets	Liabilities
о ванк — О	SD 35	1,135.60	2021.06.24	2022.06.24	1,789	-
an Bank US	SD 500	1,135.60	2020.10.14	2024.10.15	24,687	-
119	SD 500	1,102.83	2020.11.24	2029.04.16	30,232	-
Citi El	JR 150	4.5900^{1}	2021.05.12	2022.04.29	2,881	-
SC El	JR 250	4.5861 ¹	2021.05.14	2022.04.29	4,703	-
ACIB EL	JR 100	4.6055^{1}	2021.08.05	2022.08.04	2,964	-
Bank El	JR 165	4.6036 ¹	2021.08.05	2022.08.04	4,925	-
NG EL	JR 100	4.7120^{1}	2021.10.22	2022.10.21	1,420	-
MBC US	SD 200	1,118.00	2021.05.28	2024.05.28	13,556	-
Bank US	SD 130	1,135.60	2021.06.24	2025.06.24	8,817	-
3 Bank U	SD 35	1,135.60	2021.06.24	2026.06.24	2,319	-
an Bank US	SD 300	1,131.80	2021.07.07	2026.07.07	12,196	-
ri Bank US	SD 100	1,131.80	2021.07.07	2026.07.07	4,380	-
mercial US	SD 100	1,131.80	2021.07.07	2026.07.07	4,653	-
an Bank US	SD 100	1,131.80	2021.07.07	2031.07.07	4,804	-
ri Bank US	SD 200	1,131.80	2021.07.07	2031.07.07	10,032	-
Bank US	SD 200	1,131.80	2021.07.07	2031.07.07	10,429	-
	an Bank US Cookmin Bank Citi EU SC EU ACIB EU B Bank EU B Bank US B B Bank US B B B B B B B B B B B B B B B B B B B	tan Bank USD 500 Kookmin USD 500 Cookmin USD 500 Citi EUR 150 SC EUR 250 ACIB EUR 100 B Bank EUR 165 NG EUR 100 MBC USD 200 B Bank USD 130 B Bank USD 35 Itan Bank USD 35 Itan Bank USD 300 Itarial and Itanercial USD 100 Of China Itan Bank USD 100 Of China Itan Bank USD 200	Item Item <th< td=""><td>Item Item <th< td=""><td>dan Bank USD 500 1,135.60 2020.10.14 2024.10.15 Gookmin Bank USD 500 1,102.83 2020.11.24 2029.04.16 Citi EUR 150 4.5900¹ 2021.05.12 2022.04.29 SC EUR 250 4.5861¹ 2021.05.14 2022.04.29 ACIB EUR 100 4.6055¹ 2021.08.05 2022.08.04 B Bank EUR 165 4.6036¹ 2021.08.05 2022.08.04 NG EUR 100 4.7120¹ 2021.10.22 2022.10.21 MBC USD 200 1,118.00 2021.05.28 2024.05.28 B Bank USD 35 1,135.60 2021.06.24 2025.06.24 B Bank USD 300 1,131.80 2021.07.07 2026.07.07 Brital and Imercial of China USD 100 1,131.80 2021.07.07 2026.07.07 Bank USD 100 1,131.80 2021.07.07 2031.07.07 Brital and Imark and Bank USD 100 1,131.80 2021.07.07 2031.07.07 Brital Bank USD 200</td><td>Jan Bank USD 500 1,135.60 2020.10.14 2024.10.15 24,687 Gookmin Bank USD 500 1,102.83 2020.11.24 2029.04.16 30,232 Citi EUR 150 4.5900¹ 2021.05.12 2022.04.29 2,881 SC EUR 250 4.5861¹ 2021.05.14 2022.04.29 4,703 ACIB EUR 100 4.6055¹ 2021.08.05 2022.08.04 2,964 B Bank EUR 165 4.6036¹ 2021.08.05 2022.08.04 4,925 NG EUR 100 4.7120¹ 2021.10.22 2022.10.21 1,420 MBC USD 200 1,118.00 2021.05.28 2024.05.28 13,556 B Bank USD 130 1,135.60 2021.06.24 2025.06.24 8,817 B Bank USD 35 1,135.60 2021.06.24 2026.07.07 12,196 B Bank USD 100 1,131.80 2021.07.07 2026.07.07 4,653 B Bank USD 100 1,131.80 2021.07.07 2031.07.07 <t< td=""></t<></td></th<></td></th<>	Item Item <th< td=""><td>dan Bank USD 500 1,135.60 2020.10.14 2024.10.15 Gookmin Bank USD 500 1,102.83 2020.11.24 2029.04.16 Citi EUR 150 4.5900¹ 2021.05.12 2022.04.29 SC EUR 250 4.5861¹ 2021.05.14 2022.04.29 ACIB EUR 100 4.6055¹ 2021.08.05 2022.08.04 B Bank EUR 165 4.6036¹ 2021.08.05 2022.08.04 NG EUR 100 4.7120¹ 2021.10.22 2022.10.21 MBC USD 200 1,118.00 2021.05.28 2024.05.28 B Bank USD 35 1,135.60 2021.06.24 2025.06.24 B Bank USD 300 1,131.80 2021.07.07 2026.07.07 Brital and Imercial of China USD 100 1,131.80 2021.07.07 2026.07.07 Bank USD 100 1,131.80 2021.07.07 2031.07.07 Brital and Imark and Bank USD 100 1,131.80 2021.07.07 2031.07.07 Brital Bank USD 200</td><td>Jan Bank USD 500 1,135.60 2020.10.14 2024.10.15 24,687 Gookmin Bank USD 500 1,102.83 2020.11.24 2029.04.16 30,232 Citi EUR 150 4.5900¹ 2021.05.12 2022.04.29 2,881 SC EUR 250 4.5861¹ 2021.05.14 2022.04.29 4,703 ACIB EUR 100 4.6055¹ 2021.08.05 2022.08.04 2,964 B Bank EUR 165 4.6036¹ 2021.08.05 2022.08.04 4,925 NG EUR 100 4.7120¹ 2021.10.22 2022.10.21 1,420 MBC USD 200 1,118.00 2021.05.28 2024.05.28 13,556 B Bank USD 130 1,135.60 2021.06.24 2025.06.24 8,817 B Bank USD 35 1,135.60 2021.06.24 2026.07.07 12,196 B Bank USD 100 1,131.80 2021.07.07 2026.07.07 4,653 B Bank USD 100 1,131.80 2021.07.07 2031.07.07 <t< td=""></t<></td></th<>	dan Bank USD 500 1,135.60 2020.10.14 2024.10.15 Gookmin Bank USD 500 1,102.83 2020.11.24 2029.04.16 Citi EUR 150 4.5900¹ 2021.05.12 2022.04.29 SC EUR 250 4.5861¹ 2021.05.14 2022.04.29 ACIB EUR 100 4.6055¹ 2021.08.05 2022.08.04 B Bank EUR 165 4.6036¹ 2021.08.05 2022.08.04 NG EUR 100 4.7120¹ 2021.10.22 2022.10.21 MBC USD 200 1,118.00 2021.05.28 2024.05.28 B Bank USD 35 1,135.60 2021.06.24 2025.06.24 B Bank USD 300 1,131.80 2021.07.07 2026.07.07 Brital and Imercial of China USD 100 1,131.80 2021.07.07 2026.07.07 Bank USD 100 1,131.80 2021.07.07 2031.07.07 Brital and Imark and Bank USD 100 1,131.80 2021.07.07 2031.07.07 Brital Bank USD 200	Jan Bank USD 500 1,135.60 2020.10.14 2024.10.15 24,687 Gookmin Bank USD 500 1,102.83 2020.11.24 2029.04.16 30,232 Citi EUR 150 4.5900¹ 2021.05.12 2022.04.29 2,881 SC EUR 250 4.5861¹ 2021.05.14 2022.04.29 4,703 ACIB EUR 100 4.6055¹ 2021.08.05 2022.08.04 2,964 B Bank EUR 165 4.6036¹ 2021.08.05 2022.08.04 4,925 NG EUR 100 4.7120¹ 2021.10.22 2022.10.21 1,420 MBC USD 200 1,118.00 2021.05.28 2024.05.28 13,556 B Bank USD 130 1,135.60 2021.06.24 2025.06.24 8,817 B Bank USD 35 1,135.60 2021.06.24 2026.07.07 12,196 B Bank USD 100 1,131.80 2021.07.07 2026.07.07 4,653 B Bank USD 100 1,131.80 2021.07.07 2031.07.07 <t< td=""></t<>

¹ Cross exchange rate between PLN and EUR.

2) Price risk

The Group is exposed to equity securities price risk arises from investments held by the Group and classified in the consolidated interim statement of financial position as non-current financial assets. The Group's equity investments are publicly traded and are related to the NASDAQ (National Association of Securities Dealers Automated Quotations), NYSE (New York Stock

Exchange), SZSE (Shenzhen Stock Exchange), HSI (Hang Seng Index), and ASX (Australian Stock Exchange) index.

The table below summarizes the impact of increases/decreases of the listed stock price index on the Group's equity before tax effects as at September 30, 2022 and December 31, 2021. The analysis is based on the assumption that the equity index has increased/decreased by 10% with all other variables held constant, and that all the Group's equity instruments moved in line with the index

(in millions of Korean won)	Septembe	er 30, 2022	Decembe	er 31, 2021
	10% Increase	10% Decrease	10% Increase	10% Decrease
NASDAQ	3,172	(3,172)	909	(909)
ASX	1,478	(1,478)	676	(676)
NYSE	5,478	(5,478)	-	-
SZSE	6,515	(6,515)	-	-
HSI	7,300	(7,300)	-	-
Total	23,943	(23,943)	1,585	(1,585)

3) Interest rate risk

Interest rate risk is defined as the risk that the interest income or expenses arising from deposits and borrowings will fluctuate because of changes in future market interest rate. The interest rate risk mainly arises through floating rate deposits and borrowings. The objective of interest rate risk management lies in maximizing corporate value by minimizing uncertainty in interest rates fluctuations and net interest expense.

The Group adequately minimizes risks from interest rate fluctuations through various policies, such as sharing excess cash within the Group (internal cash sharing) to minimize external borrowings, avoiding high rate borrowings, reforming capital structure, managing an appropriate ratio of fixed rate borrowings and floating rate borrowings, monitoring a fluctuation of domestic and foreign interest rates daily, weekly and monthly, establishing alternatives, and balancing floating rate short-term borrowings with floating rate deposits.

The table below summarizes the impact of increases/decreases of interest rate on the Group's equity and post-tax profit for the nine-month periods ended September 30, 2022 and 2021. The analysis is based on the assumption that the interest rate has increased/decreased by 1% (100 basis points) with all other variables held constant.

(in millions of Korean won)		Impact on pos	t-tax profit	rofit Impact on equity	
		2022	2021	2022	2021
Increase	Deposits	16,108	13,818	16,108	13,818
	Borrowings	(47,116)	(46,249)	(47,116)	(46,249)
	Total	(31,008)	(32,431)	(31,008)	(32,431)
Decrease	Deposits	(16,108)	(13,818)	(16,108)	(13,818)
	Borrowings	47,116	46,249	47,116	46,249
	Total	31,008	32,431	31,008	32,431

The deposits exposed to the above interest rate risk are held for the purpose of meeting the short-term demand for cash as it is easily convertible to a determined amount of cash.

Also, the above borrowings are variable interest rate borrowings from KDB Bank and others, and the Group has entered into a currency interest rate swap contract amounting to USD 525 million

(equivalent to $\pm 753,270$ million) to hedge interest rate risk of variable interest rate borrowings. As such, the borrowings are not exposed to interest rate risk.

(2) Credit risk

Credit risk arises from trade receivables and that the Group holds, as well as debt instruments at amortized cost or fair value through other comprehensive income.

1) Trade receivables

The Group applies the simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for trade receivables. To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due. The loss allowance on trade receivables as at September 30, 2022 is as follows. Expected credit losses include forward-looking information.

(in millions of Korean won)	Receivables not past due ¹	Receivables past due but not impaired ¹	Impaired receivables ²	Total
September 30, 2022 (trade receivables)				
Gross carrying amount	8,501,992	564,858	3,405	9,070,255
Expected loss rate	0.0%	0.1%	83.8%	0.1%
Loss allowance	2,072	675	2,853	5,600
December 31, 2021 (trade receivables)				
Gross carrying amount	6,118,779	338,693	1,656	6,459,128
Expected loss rate	0.1%	0.2%	81.5%	0.1%
Loss allowance	3,152	592	1,350	5,094

¹ See Note 7.(3) for aging analysis.

Movements in the loss allowance on trade receivables for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of Korean won)	Trade receivables			
	September 30, 2022	December 31, 2021		
Beginning balance Increase in (reversal of) loss allowance	5,094	4,391		
recognized in profit or loss	111	(127)		
Business combination (Note 37)	724	-		
Receivables written off as uncollectible	(758)	(447)		
Exchange differences	429	1,277		
Ending balance	5,600	5,094		

As at September 30, 2022, the carrying amount of trade receivables representing the maximum exposure to credit risk amounts to $\forall 9,064,655$ million (December 31, 2021: $\forall 6,454,034$ million).

² Impaired receivables are those for which impairment indicators have been confirmed, such as significant lack of collectability.

2) Other financial assets at amortized cost

Movements in loss allowance on other financial assets at amortized cost for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of Korean won)	Other rec	Other receivables			
	September 30, 2022	December 31, 2021			
Beginning balance	2,165	2,165			
Receivables written off as uncollectible	(1,150)				
Ending balance	1,015	2,165			

All of the financial assets at amortized costs are considered to have low credit risk, and the loss allowance recognized during the period was, therefore, limited to 12 months expected losses.

The Group has established the following policies and procedures to manage credit risks.

To manage credit risks relating to trade receivables, the Group evaluates the credit rating of customers and determines credit limit for each customer based on the information provided by credit rating agencies and other available financial information before commencing business with new customers. The credit risks relating to trade receivables are also mitigated by insurance contracts, collateral as well as payment guarantees.

The Group has entered into export bond insurance contracts with Korea Trade Insurance Corporation to mitigate credit risks relating to export trade receivables to overseas customers. The Group is also provided with collateral by customers depending on their credit rating or payment guarantees from the customers' financial institutions if necessary.

The Group has deposited its cash and cash equivalents and other long-term deposits in several financial institutions, such as Woori Bank and others. The Group has also entered into derivative contract with several financial institutions. The Group maintains business relationship with those financial institutions with high credit ratings evaluated by independent credit rating agencies and accordingly, credit risks associated with these financial institutions are limited.

(3) Liquidity risk

Finance team of the Group monitors rolling forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities at all times so that the Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. The Group's liquidity management policy involves projecting cash flows in major currencies and considering the level of liquid assets necessary to meet these, monitoring balance sheet liquidity ratios against internal and external regulatory requirements and maintaining debt financing plans.

The table below analyzes the Group's financial liabilities into relevant maturity groupings based on the remaining period at the reporting period to the contractual maturity date. Cash flows presented below are gross cash flows before discount and includes cash flows for interests.

Less than Between Between 1 year 1-2 years 2-5 years Over 5 year Non-derivative financial instruments	ars					
Non-derivative financial instruments						
Borrowings (excluding lease liabilities) 4,963,500 2,616,654 6,757,960 3,614,33	324					
Lease liabilities 91,602 75,891 120,852 169,39						
- ,	47					
Other current liabilities (dividends payable) 62,297	_					
14,056,527 2,741,171 6,879,090 3,783,77	773					
Derivative instruments Gross settlement currency forwards and swaps						
(Inflows) (497,450) (559,493) (2,716,319) (1,454,32	27)					
Outflows 483,915 506,912 2,266,847 1,168,39						
(13,535)(52,581)(449,472)(285,92	28)					
<u> 14,042,992</u> <u> 2,688,590</u> <u> 6,429,618</u> <u> 3,497,8</u> 4	345					
(in millions of Korean won) December 31, 2021	December 31, 2021					
Less than Between Between						
1 year 1-2 years 2-5 years Over 5 year Non-derivative financial instruments Borrowings (excluding lease	ars					
liabilities) 3,548,442 2,403,648 5,984,843 3,551,2°	215					
Lease liabilities 82,568 54,416 87,498 156,49	194					
Trade and other payables ¹ 7,733,917 13,757 1,694 17	71					
<u> 11,364,927</u> <u> 2,471,821</u> <u> 6,074,035</u> <u> 3,707,88</u>	380					
Derivative instruments Gross settlement currency forwards and swaps						
(Inflows) (1,096,082) (27,579) (1,690,054) (1,255,88	89)					
Outflows 1,096,734 26,825 1,613,263 1,181,16	-					
652 (754) (76,791) (74,72						
<u> 11,365,579</u> <u> 2,471,067</u> <u> 5,997,244</u> <u> 3,633,15</u>	52					

¹ Included ₩301,946 million of financial liabilities due to a financial institution relating to reverse factoring arrangement as at December 31, 2021. The Group has entered into reverse factoring arrangement (interest rate CD 91 days + 0.93~1.20%) with a financial institution whereby suppliers receive payments from the financial institution on the due date of each invoice and the Group pays to the financial institution at the end of extended credit period as agreed in the reverse factoring arrangement. As at September 30, 2022, there is no utilized amount in the reverse factoring arrangement.

As at September 30, 2022, the Group has entered into swap contracts for which cash flow hedge accounting is applied, to avoid market price fluctuation of raw materials.

(in millions of Korean			September 3	30, 2022		
won)	Purpose of Hedged		Financial		Fair value	
	the contracts	items	institution	Maturity	Assets	Liabilities
Merchandise						
(raw materials)	Cash flow	Non-ferrous	Citi and			
swap¹	hedge	metal	others	~2024. 12	4,059	30,924

¹ Gain (loss) resulting from the contracts to avoid cash flow fluctuation risk of expected future transaction is accounted for as accumulated other comprehensive income which corresponds to an effective portion of the hedges (Note 5).

3.2 Capital Risk Management

The Group's objectives for managing capital are to safeguard the Group's ability to continue as a going concern, so the Group can continue to provide returns for shareholders and benefits for other stakeholders, and to maintain an optimal capital structure to reduce the cost of capital.

Consistent with others in the industry, the Group monitors capital on the basis of the gearing ratio. This ratio is calculated as net debt divided by total capital. Net debt is calculated as total borrowings less cash and cash equivalents. Total capital is calculated as 'equity' as shown in the consolidated statement of financial position plus net debt.

The gearing ratio and debt-to-equity ratio as at September 30, 2022 and December 31, 2021, were as follows:

(in millions of Korean won, except for ratios)	September 30, 2022	December 31, 2021
Total borrowings (Note 14) (A)	17,116,770	14,765,734
Less: cash and cash equivalents (B)	(4,911,874)	(3,760,834)
Net debt (C=A+B)	12,204,896	11,004,900
Total liabilities (D)	30,933,922	27,925,314
Total equity (E)	38,715,110	23,209,988
Total capital (F=C+E)	50,920,006	34,214,888
Gearing ratio (C/F)	24.0%	32.2%
Debt-to-equity ratio (D/E)	79.9%	120.3%

3.3 Fair Value

(1) Carrying amount and fair value of financial instruments by category as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September	30, 2022	December 31, 2021		
	Carrying amount	Fair value	Carrying amount	Fair value	
Financial assets (current)					
Cash and cash equivalents	4,911,874	1	3,760,834	1	
Deposits held by financial institutions	4,216,467	1	64,583	1	
Trade receivables	8,957,134	1	6,386,979	1	
Other receivables (excluding deposits	0,007,101		0,000,010		
held by financial institutions)	1,349,302	1	983,966	1	
Current derivative financial assets	, ,		,		
(currency forward)	11,169	11,169	18,683	18,683	
Current derivative financial assets					
(excluding currency forward)	2,574	2,574	4,606	4,606	
Financial assets (non-current)					
Deposits held by financial institutions	277,227	1	267,116	1	
Trade receivables	107,521	1	67,055	1	
Other receivables (excluding deposits					
held by financial institutions)	372,709	1	446,050	1	
Other non-current financial assets					
(carried at fair value)					
Marketable financial assets	297,016	297,016	21,630	21,630	
Non-marketable financial assets ²	466,756	466,756	340,823	340,823	
Non-current derivative financial assets					
(currency forward)	242,722	242,722	54,918	54,918	
Non-current derivative financial assets					
(excluding currency forward)	480,819	480,819	88,651	88,651	
Financial liabilities (current)					
Trade and other payables	8,939,128	1	7,733,916	1	
Current borrowings					
(excluding lease liabilities)	4,657,353	1	3,405,215	1	
Current lease liabilities	83,939	3	71,865	3	
Other current liabilities (dividend payable)	62,297	1	-	-	
Current derivative financial liabilities					
(currency forward)	20,035	20,035	-	-	
Current derivative financial liabilities (excluding currency forward)	19,908	19,908	-	-	
Figure 2 de la					
Financial liabilities (non-current) Non-current borrowings					
(excluding lease liabilities)	12 056 950	11,205,146	11 0/1 27/	10 022 042	
Non-current lease liabilities	12,056,859	11,205,146 3	11,041,274	10,923,942 3	
	318,619	1	247,380	1	
Other non-current payables Non-current derivative financial liabilities	48,951	1	15,623	1	
(currency forward)	20.060	20.060		_	
Non-current derivative financial liabilities	29,869	29,869	-		
(excluding currency forward)	11,016	11,016	126	126	
(20	11,010	120	120	

(in millions of Korean won)	September 30, 2022 Dece			mber 31, 2021	
	Carrying amount	Fair value	Carrying amount	Fair value	
Non-current derivative financial liabilities (acquisition of interests)	43.044	43.044	_		

¹ These financial assets and liabilities are not included in the disclosure above as their carrying amount is a reasonable approximation of the fair value.

(2) Fair value hierarchy

Items that are measured at fair value are categorized by the fair value hierarchy levels, and the defined levels are as follows:

- Quoted prices (unadjusted) in active markets for identical assets or liabilities that an entity can access at the measurement date (Level 1).
- All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability (Level 2).
- Unobservable inputs for the asset or liability (Level 3).

Fair value hierarchy of the financial instruments that are either measured at fair value or their fair values are disclosed for as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022				
	Level 1	Level 2	Level 3	Total	
Financial assets/liabilities					
measured at fair value					
Other non-current financial assets					
(marketable financial assets)	297,016	-	-	297,016	
Other non-current financial assets					
(non-marketable financial assets) ¹	-	-	466,756	466,756	
Current derivative financial assets		44.400		44.400	
(currency forward)	-	11,169	-	11,169	
Current derivative financial assets		0.574		0.574	
(excluding currency forward) Non-current derivative financial assets	-	2,574	-	2,574	
(currency forward)		242,722		242,722	
Non-current derivative financial assets	-	242,122	-	242,122	
(excluding currency forward)	_	461,261	19,558	480,819	
Current derivative financial liabilities		401,201	10,000	400,010	
(currency forward)	_	20,035	_	20,035	
Current derivative financial liabilities				,,	
(excluding currency forward)	_	19,908	-	19,908	
Non-current derivative financial					
liabilities (currency forward)	-	29,869	-	29,869	
Non-current derivative financial					
liabilities (excluding currency					
forward)	-	11,016	-	11,016	

² Acquisition costs of a part of these financial assets approximate their fair values.

³ Fair values for these financial assets and liabilities are not disclosed above in accordance with related Korean IFRS.

Non-current derivative financial liabilities (acquisition of interests)	-	-	43,044	43,044
Financial assets/liabilities not measured at fair value				
Non-current borrowings				
(excluding lease liabilities)	-	-	11,205,146	11,205,146
(in millions of Korean won)		Decembe	r 31, 2021	
	Level 1	Level 2	Level 3	Total
Financial assets/liabilities				
measured at fair value				
Other non-current financial assets	04.000			04.000
(marketable financial assets) Other non-current financial assets	21,630	-	-	21,630
(non-marketable financial assets)			340,823	340,823
Current derivative financial assets	-	-	340,623	340,623
(currency forward)	_	18,683	_	18,683
Current derivative financial assets		.0,000		10,000
(currency swap)	_	4,606	-	4,606
Non-current derivative financial assets				
(currency forward)	-	54,918	-	54,918
Non-current derivative financial assets				
(currency swap)	-	72,491	16,160	88,651
Non-current derivative financial				
liabilities		100		400
(currency swap)	-	126	-	126
Financial assets/liabilities				
not measured at fair value				
Non-current borrowings				
(excluding lease liabilities)	-	-	10,923,942	10,923,942

¹ Acquisition costs of a part of these financial assets approximate their fair values. For fair values measured by using other methods, see (3) Valuation technique and the inputs.

(3) Valuation technique and the inputs

Valuation techniques and inputs used in the fair value measurements categorized within Level 3 of the fair value hierarchy as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)			Septembe	er 30, 2022	
	Fair value	Level	Valuation Technique	Inputs	Coverage of Level 3 inputs
Other non-current financial assets (Non-listed shares)	121,721	3	Discounted cash flows model	Long-term growth rate through subsequent cash flows	1.00%
				Weighted average cost of equity	10.98% ~ 12.2%
Non-current derivative financial assets (Option)	19,558	3	Binominal option pricing model	Volatility	2.36 ~ 2.4%
Non-current derivative financial liabilities (Acquisition of interests)	43,044	3	Binominal option pricing model, etc.	Earnings before interest, taxes, depreciation, and amortization (EBITDA)	-37.5 ~ 37.5%
Non-current borrowings (Excluding lease liabilities)	11,205,146	3	Discounted cash flows model	Discount rates	4.01%~5.19%
(in millions of Korean won)			Decembe	er 31, 2021	
	Fair value	Level	Valuation Technique	Inputs	Coverage of Level 3 inputs
Other non-current financial assets (Non-listed shares)	97,121	3	Discounted cash flows model	Long-term growth rate through subsequent cash flows	1.00%
				Weighted average cost of equity	10.98% ~ 12.2%
Non-current derivative financial assets (Option)	16,160	3	Binominal option pricing model	Volatility	2.36 ~ 2.4%
Non-current borrowings (Excluding lease	10,923,942	3	Discounted cash flows	Discount rates	1.77% ~ 2.99%

4. Critical Accounting Estimates and Assumptions

liabilities)

The preparation of financial statements requires the Group to make estimates and assumptions concerning the future. Management also needs to exercise judgement in applying the Group's accounting policies. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The resulting accounting estimates may differ from the related actual results.

model

Significant accounting estimates and assumptions applied in the preparation of these condensed consolidated interim financial statements are the same as those applied to the consolidated financial statements for the year ended December 31, 2021, except for the estimates used to determine income tax expense.

The spread of COVID-19 has a significant impact on the domestic and international economies. This may affect the Group's financial position and business performance. and the impact is expected to be continued to the consolidated annual financial statements in 2022.

Significant accounting estimates and assumptions used in the preparation of consolidated interim financial statements may be adjusted according to fluctuations in uncertainty arising from COVID-19, and the ultimate impact of COVID-19 on the Group's business, financial position, and performance is currently unpredictable.

5. Financial Instruments by Category

Categorizations of financial instruments as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022					
	Financial assets					
Financial assets	Financial assets at amortized cost	Financial assets at fair value through profit or loss	at fair value through other comprehensive income	Other financial assets ¹	Total	
Cash and cash equivalents	4,911,874	-	-	-	4,911,874	
Trade receivables	8,396,083	-	561,051	-	8,957,134	
Non-current trade receivables	107,521	-	-	-	107,521	
Other receivables	5,565,459	-	310	-	5,565,769	
Other non-current receivables	649,936	-	-	-	649,936	
Other current financial assets	-	-	-	13,743	13,743	
Other non-current financial assets	<u> </u>	235,254	528,518	723,541	1,487,313	
Total	19,630,873	235,254	1,089,879	737,284	21,693,290	

(in thousands of Korean won)	September 30, 2022		
Financial liabilities	Financial liabilities at amortized cost	Other financial liabilities ²	Total
Trade payables	5,357,036	-	5,357,036
Other payables	3,582,092	-	3,582,092
Borrowings (current)	4,273,791	467,501	4,741,292
Other current liabilities			
(dividend payable)	62,297	-	62,297
Other current financial liabilities	-	39,943	39,943
Other non-current financial liabilities	-	83,929	83,929
Other non-current payables	48,951	-	48,951
Borrowings (non-current)	12,056,859	318,619	12,375,478
Total	25,381,026	909,992	26,291,018

(in millions of Korean won)	December 31, 2021					
	Financial assets					
Financial assets	Financial assets at amortized cost	Financial assets at fair value through profit or loss	at fair value through other comprehensive income	Other financial assets ¹	Total	
Cash and cash equivalents	3,760,834	-	-	-	3,760,834	
Trade receivables	5,898,369	-	488,610	-	6,386,979	
Non-current trade receivables	67,055	-	-	-	67,055	
Other receivables	1,047,224	-	1,325	-	1,048,549	
Other non-current receivables	713,166	-	-	-	713,166	
Other current financial assets	-	-	-	23,289	23,289	
Other non-current financial assets		160,145	202,308	143,569	506,022	
Total	11,486,648	160,145	692,243	166,858	12,505,894	

(in thousands of Korean won)	December 31, 2021			
Financial liabilities	Financial liabilities at amortized cost	Other financial liabilities ²	Total	
Trade payables	3,742,132	-	3,742,132	
Other payables	3,991,784	-	3,991,784	
Borrowings (current)	2,954,262	522,818	3,477,080	
Other non-current financial liabilities	-	126	126	
Other non-current payables	15,623	-	15,623	
Borrowings (non-current)	11,041,274	247,380	11,288,654	
Total	21,745,075	770,324	22,515,399	

¹Other financial assets include derivative assets that are not subject to the categorizations.

² Other financial liabilities include lease liabilities, derivative liabilities and negotiated borrowings that are not subject to the categorizations.

Net gains or losses on each category of financial instruments for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	20	22	2021	
	Three months	Nine months	Three months	Nine months
Dividend income				
Financial assets at fair value				
through other comprehensive				
income	1,211	1,538	4,875	5,963
Impairment loss(reversal)				
Financial assets at amortized cost	(180)	111	362	306
Interest income				
Financial assets at amortized cost	74,995	199,932	32,534	55,022
Interest expense				
Financial liabilities at amortized				
cost	(82,824)	(210,146)	(70,552)	(186,733)
Other financial liabilities	(2,302)	(6,976)	(1,610)	(5,341)
Financial assets at amortized cost ¹	(2,835)	(5,524)	(78)	(78)
Financial assets at fair value				
through other comprehensive			(= 4)	(00.4)
income ¹	-	-	(71)	(904)
Gain (loss) on valuation/disposal				
Financial assets at fair value through profit or loss	9,670	10,334	(4,258)	7,522
Financial assets at fair value	9,070	10,334	(4,256)	7,522
through other comprehensive				
income	(10,983)	(11,592)	16,637	18,373
Derivative instruments	353,804	496,318	119,505	139,235
Exchange differences	,	,	,	,
Financial assets at amortized cost	993,432	1,650,764	308,704	466,170
Financial liabilities at amortized	000, 102	1,000,701	000,701	100,170
cost	(1,304,157)	(2,067,140)	(399,865)	(437,023)
Derivative instruments	7,512	18,051	-	-
Other financial liabilities	(18,641)	(29,830)	(1,664)	(1,684)
	(-,,	(- ,)	(,)	(,)

¹ Fees paid to financial institutions for factoring.

6. Cash and Cash Equivalents

Details of cash and cash equivalents as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021	
Bank deposits and cash on hand	1,713,676	1,943,818	
Deposits held by financial institutions and others	3,198,198	1,817,016	
Total	4,911,874	3,760,834	

As at September 30, 2022, cash and cash equivalents include \pm 20,479 million which is subject to a restriction on the use in association with the national R&D projects.

7. Trade and Other Receivables

Trade and other receivables and its loss allowance, as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022					
	Gross amount	Loss allowance	Carrying amount			
Trade receivables	8,962,734	(5,600)	8,957,134			
Non-current trade receivables	107,521	-	107,521			
Other current receivables	5,566,784	(1,015)	5,565,769			
Other non-current receivables	649,936	· -	649,936			
Total	15,286,975	(6,615)	15,280,360			

(in millions of Korean won)	of Korean won) December 31, 2021					
	Gross amount	Loss allowance	Carrying amount			
Trade receivables Non-current trade receivables	6,392,073 67,055	(5,094)	6,386,979 67,055			
Other current receivables Other non-current receivables	1,050,714 713,166	(2,165) -	1,048,549 713,166			
Total	8,223,008	(7,259)	8,215,749			

Details of other receivables as at September 30, 2022 and December 31, 2021, are as follows:

Current Non-trade receivables 1,047,972 865,984 Deposits held by financial institutions 4,216,467 64,583 Accrued income 118,611 31,955 Loans 147,305 65,266 Guarantee deposits provided 35,414 20,761 Non-current 29,632 29,195 Deposits held by financial institutions¹ 277,227 267,116 Loans 233,742 330,643 Guarantee deposits provided 109,335 86,212 Total 6,215,705 1,761,715	(in millions of Korean won)	September 30, 2022	December 31, 2021
Deposits held by financial institutions 4,216,467 64,583 Accrued income 118,611 31,955 Loans 147,305 65,266 Guarantee deposits provided 35,414 20,761 Non-current Non-trade receivables 29,632 29,195 Deposits held by financial institutions¹ 277,227 267,116 Loans 233,742 330,643 Guarantee deposits provided 109,335 86,212 649,936 713,166	Current		
Accrued income 118,611 31,955 Loans 147,305 65,266 Guarantee deposits provided 35,414 20,761 5,565,769 1,048,549 Non-current 29,632 29,195 Deposits held by financial institutions¹ 277,227 267,116 Loans 233,742 330,643 Guarantee deposits provided 109,335 86,212 649,936 713,166	Non-trade receivables	1,047,972	865,984
Loans 147,305 65,266 Guarantee deposits provided 35,414 20,761 5,565,769 1,048,549 Non-current Non-trade receivables 29,632 29,195 Deposits held by financial institutions¹ 277,227 267,116 Loans 233,742 330,643 Guarantee deposits provided 109,335 86,212 649,936 713,166	Deposits held by financial institutions	4,216,467	64,583
Guarantee deposits provided 35,414 20,761 5,565,769 1,048,549 Non-current 29,632 29,195 Deposits held by financial institutions¹ 277,227 267,116 Loans 233,742 330,643 Guarantee deposits provided 109,335 86,212 649,936 713,166	Accrued income	118,611	31,955
Non-current 5,565,769 1,048,549 Non-trade receivables 29,632 29,195 Deposits held by financial institutions¹ 277,227 267,116 Loans 233,742 330,643 Guarantee deposits provided 109,335 86,212 649,936 713,166	Loans	147,305	65,266
Non-current Non-trade receivables 29,632 29,195 Deposits held by financial institutions¹ 277,227 267,116 Loans 233,742 330,643 Guarantee deposits provided 109,335 86,212 649,936 713,166	Guarantee deposits provided	35,414	20,761
Non-trade receivables 29,632 29,195 Deposits held by financial institutions¹ 277,227 267,116 Loans 233,742 330,643 Guarantee deposits provided 109,335 86,212 649,936 713,166		5,565,769	1,048,549
Deposits held by financial institutions¹ 277,227 267,116 Loans 233,742 330,643 Guarantee deposits provided 109,335 86,212 649,936 713,166	Non-current		
Loans 233,742 330,643 Guarantee deposits provided 109,335 86,212 649,936 713,166	Non-trade receivables	29,632	29,195
Guarantee deposits provided 109,335 86,212 649,936 713,166	Deposits held by financial institutions ¹	277,227	267,116
649,936 713,166	Loans	233,742	330,643
	Guarantee deposits provided	109,335	86,212
Total 6,215,705 1,761,715		649,936	713,166
	Total	6,215,705	1,761,715

¹ As at September 30, 2022, ₩266,100 million (December 31, 2021: ₩266,100 million) is withdrawal restricted in relation to large, small and medium-sized companies cooperation agreement, ₩135 million is restricted in use to be retained in connection with maintaining checking accounts (December 31, 2021: ₩120 million), and ₩10,000 million is restricted in use to be retained in connection with employee loan deposits. Also, PLN 3 million is restricted in use to be retained in relation to overseas transportation of hazardous waste.

The aging analysis of trade and other receivables as at September 30, 2022 and December 31, 2021, is as follows:

(in millions of Korean won)	Septembe	r 30, 2022	December 31, 2021			
	Trade receivables	Other receivables	Trade receivables	Other receivables		
Receivables not past due	8,501,992	6,141,124	6,118,779	1,690,123		
Past due but not impaired						
Up to 3 months	506,299	65,934	236,860	70,136		
Between 3-6 months	38,512	1,417	15,811	457		
Over 6 months	20,047	7,230	86,022	999		
	564,858	74,581	338,693	71,592		
Impaired receivables	3,405	1,015	1,656	2,165		
Total	9,070,255	6,216,720	6,459,128	1,763,880		

Movements of loss allowance on trade and other receivables for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022				
	Trade red	ceivables	Other receivables		
	Current	Non-current	Current	Non-current	
Beginning balance	5,094	-	2,165	-	
Impairment loss	111	-	-	-	
Business combination (Note					
37)	724	-	-	-	
Write-off	(758)	-	(1,150)	-	
Exchange differences	429	<u> </u>	_		
Ending balance	5,600		1,015		

(in millions of Korean won)	December 31, 2021					
	Trade red	eivables	Other red	Other receivables		
	Current	Non-current	Current	Non-current		
Beginning balance	4,391	-	2,165	-		
Reversal of impairment	(127)	-	-	-		
Write-off	(447)	-	-	-		
Exchange differences	1,277	-	-	-		
Ending balance	5,094		2,165	_		

As at September 30, 2022 and December 31, 2021, the carrying amounts of trade and other receivables are approximation of their fair values.

The Group transferred trade and other receivables to financial institutions for $\mbox{$\% 271,839$}$ million at September 30, 2022 (December 31, 2021: $\mbox{$\% 3,469$}$ million), and derecognized the trade and other receivables from the financial statements at the date of disposal, as substantial all the risks and rewards were transferred.

8. Other Financial Assets and Liabilities

Details of other financial assets and liabilities as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Other financial assets Financial assets at fair value through other		
comprehensive income (derivative instruments) (current)	2,574	4,606
Financial assets at fair value through profit or loss (derivative instruments) (current) Financial assets at fair value through other comprehensive income	11,169	18,683
(derivative instruments) (non-current) Financial assets at fair value through other comprehensive income	1,485	1,305
(excluding derivative instruments) (non-current) Financial assets at fair value through profit or loss	528,518	202,308
(derivative instruments) (non-current) Financial assets at fair value through profit or loss	722,056	142,264
(excluding derivative instruments) (non-current)	235,254	160,145
	1,501,056	529,311
Other financial liabilities Financial liabilities at fair value through other comprehensive income		
(derivative instruments) (current) Financial liabilities at fair value through profit or loss	19,908	-
(derivative instruments) (current) Financial liabilities at fair value through other comprehensive income	20,035	-
(derivative instruments) (non-current) Financial liabilities at fair value through profit or loss	11,016	126
(derivative instruments) (non-current)	72,913	
	123,872	126

Changes in equity and debt instruments included in other financial assets for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Beginning balance	362,452	81,532
Acquisitions / transfer	418,501	248,354
Disposals	(32,208)	(16,388)
Gain on valuation through other comprehensive income		
(before income tax effects)	44	15,990
Gain (loss) on valuation through profit or loss	(1,605)	29,810
Exchange differences on translation of foreign operations	16,588	3,154
Ending balance	763,772	362,452

During the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, the Group did not recognize impairment for other financial assets.

9. Inventories

Details of inventories as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022				
-	Gross amount	Valuation allowance	Carrying amount		
Merchandise	322,019	(26,821)	295,198		
Finished / Semi-finished products	7,600,366	(301,767)	7,298,599		
Work-in-process	25,660	-	25,660		
Raw materials	3,084,902	(56,506)	3,028,396		
Supplies	307,196	-	307,196		
Goods-in-transit	1,537,526	<u> </u>	1,537,526		
Total	12,877,669	(385,094)	12,492,575		

(in millions of Korean won)	December 31, 2021				
·	Gross amount	Valuation allowance	Carrying amount		
Merchandise	192,580	(6,131)	186,449		
Finished / Semi-finished products	4,715,464	(233,613)	4,481,851		
Work-in-process	25,587	-	25,587		
Raw materials	2,040,432	(24,104)	2,016,328		
Supplies	266,487	-	266,487		
Goods-in-transit	1,306,772	-	1,306,772		
Total	8,547,322	(263,848)	8,283,474		

During the nine-month period ended September 30, 2022, the cost of inventories recognized as expense and included in 'cost of sales' amounted to $\mbox{$W23,045,484$}$ million (2021: $\mbox{$W17,025,215$}$ million).

10. Investments in Associates and Joint Ventures

Changes in investments in associates and joint ventures for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of				Septeml	per 30, 2022			
Korean won)				Share of profit (loss) of	Share of other comprehensive income (loss)			
	Beginning balance	Acquisitions / transfer	Dividends	associates and joint ventures	of associates and joint ventures	Impairment / disposals	Others	Ending balance
VINA Plasticizers Chemical								
Co.,Ltd. ¹	12,822	-	-	2,239	1,761	_	(16,822)	-
TECHWIN Co., Ltd.	19,024	-	-	(1,785)	(51)	-	-	17,188
SEETEC Co., Ltd LG Chem BRASIL INTERMEDIACAO DE	134,843	-	(5,000)	4,105	-	-	(307)	133,641
NEGOCIOS DO SETOR QUIMICO LTDA. LG Chem Malaysia	579	-	-	-	-	-	(579)	-
SDN.BHD LG Life Sciences Poland	150	-	-	-	-	-	(150)	-
Ltd. HUAJIN NEW ENERGY MATERIALS(QUZHOU)C	17	-	-	-	-	-	-	17
O., LTD. VINFAST LITHIUM BATTERY PACK LIMITED	93,835	-	-	(3,390)	4,685	-	-	95,130
LIABILITY COMPANY	3,769	-	-	(1,234)	637	_	-	3,172
Jiangxi VL Battery Co.,Ltd	20,310	-	-	(4,860)	1,260	_	-	16,710
PT.HLI Green Power	201,488	-	-	(19,256)	44,118	_	-	226,350
TL Chemical CO., Ltd LG Toray Hungary Battery	48,473	-	-	(958)	-	-	-	47,515
Separator Kft. KOREA PRECURSOR	-	522,425	-	1,866	20,939	-	-	545,230
CO.,LTD.		20,384		(50)	(104)			20,230
	535,310	542,809	(5,000)	(23,323)	73,245	_	(17,858)	1,105,183

 $^{^1}$ During the nine-month period ended September 30, 2022, the Group reclassified the shares of VINA Plasticizers Chemical Co., Ltd. amounting to \pm 16,822 million as assets held for sale.

(in millions of				Decemb	per 31, 2021			
Korean won)	Beginning balance	Acquisitions / transfer	Dividends	Share of profit (loss) of associates and joint ventures	Share of other comprehensive income (loss) of associates and joint ventures	Impairment / disposals	Others	Ending balance
VINA Plasticizers Chemical								
Co., Ltd.	5,875	-	(334)	7,204	77	-	-	12,822
HL Greenpower Co., Ltd.	22,710	-	-	1,847	-	(24,323)	(234)	-
TECHWIN Co., Ltd.	20,113	-	-	(1,106)	17	-	-	19,024
SEETEC Co., Ltd LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR	140,116	-	(10,000)	4,727	-	-	-	134,843
QUIMICO LTDA. LG Chem Malaysia	579	-	-	-	-	-	-	579
SDN.BHD	150	-	-	-	-	-	-	150
FJ Composite Materials Co., LTD.	2,737	-	-	(544)	652	(2,576)	(269)	-
WUXI CL New Energy Technology Ltd LG Life Sciences Poland	-	-	-	-	-	-	-	-
Ltd. Combustion Synthesis Co.,	17	-	-	-	-	-	-	17
Ltd. HUAJIN NEW ENERGY MATERIALS(QUZHOU)C	1,867	-	-	273	(106)	(1,969)	(65)	-
O., LTD. VINFAST LITHIUM BATTERY PACK LIMITED	89,525	-	-	(5,537)	9,847	-	-	93,835
LIABILITY COMPANY	4,179	_	_	(730)	320	_	_	3,769
Jiangxi VL Battery Co.,Ltd	21,461	_	_	(3,471)	2,320	_	_	20,310
PT.HLI Green Power	_ :, . • ·	209,132	_	(9,201)	1,557	_	_	201,488
TL Chemical CO., Ltd	_	48,544	_	(71)	-,50	_	_	48,473
- · · · · · · · · · · · · · · · · · · ·	309,329	257,676	(10,334)	(6,609)	14,684	(28,868)	(568)	535,310
	300,020	_0,0,0	(.0,001)	(0,000)	11,504	(=0,000)	(000)	550,010

11. Property, Plant and Equipment

Changes in property, plant and equipment for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Beginning balance	24,378,259	20,567,475
Business combination (Note 37)	7,251	250,128
Acquisitions / transfer	9,566,144	12,512,008
Disposals / transfer	(4,495,369)	(6,864,140)
Exchange differences	922,509	560,958
Depreciation	(2,275,045)	(2,617,458)
Impairment	(48,769)	(30,712)
Reversal of impairment	705	-
Transfer to assets held for sale (Note 34)	(5,471)	-
Ending balance	28,050,214	24,378,259

During the nine-month period ended September 30, 2022, the Group capitalized $\mbox{$W$}14,189$ million of borrowing costs (2021: $\mbox{$W$}40,334$ million) in relation to acquisition of property, plant and equipment, on property, plant and equipment. The capitalization rate of borrowings used to determine the amount of borrowing costs eligible for capitalization is 1.60% (2021: 1.40%).

Line items including depreciation in the consolidated statements of profit or loss for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	202	22	2021		
	Three months	Nine months	Three months	Nine months	
Cost of sales Selling and administrative	726,916	2,059,029	618,462	1,706,528	
expenses	74,431	214,458	61,395	175,905	
Others	368	561	431	1,024	
Discontinued operations	266	997	1,252	5,338	
Total	801,981	2,275,045	681,540	1,888,795	

Lease

(i) Amounts recognized in the consolidated statement of financial position

Details of right-of-use assets in consolidated statement of financial position are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021	
Right-of-use assets ¹			
Real-estate	367,003	329,920	
Machinery	56,376	23,258	
Vehicles	32,643	21,475	
Tools	2,238	2,083	
Equipment	634	473	
	458,894	377,209	

Additions to the right-of-use assets during the nine-month period ended September 30, 2022, were \pm 145,668 million (2021: \pm 136,423 million).

(in millions of Korean won)	September 30, 2022	December 31, 2021
Lease liabilities ¹		
Current	83,939	71,865
Non-current	318,619	247,380
	402,558	319,245

¹ Included in the line item 'Borrowings' in the consolidated statements of financial position.

(ii) Amounts recognized in the consolidated statement of profit or loss

Lease related expenses recognized in the consolidated statement of profit or loss for the ninemonth periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Depreciation of right-of-use assets		
Real-estate	58,758	40,364
Machinery	4,725	4,244
Vehicles	12,829	9,727
Tools	1,465	1,095
Equipment	261	375
	78,038	55,805
Interest expense relating to lease liabilities (included in finance cost)	6,976	5,341
Expense relating to short-term leases (included in cost of goods sold and administrative expenses) Expense relating to leases of low-value assets that are not short-term leases (included in cost of goods sold and	24,275	20,616
administrative expenses)	11,080	9,617

Total cash outflow for leases during the nine-month period ended September 30, 2022, was \pm 112,306 million (2021: \pm 90,294 million).

¹ Included in the line item 'Property, plant and equipment' in the consolidated statements of financial position.

12. Intangible Assets

Changes in intangible assets for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Beginning balance	2,444,303	2,279,917
Business combination (Note 37)	1,504	251,856
Acquisitions / transfer	375,942	427,080
Additions – internal development	-	220
Disposals / transfer	(40,675)	(15,425)
Exchange differences	48,710	23,042
Amortization	(212,444)	(223,178)
Impairment	(314)	(298,849)
Transfer to assets held for sale (Note 34)	(4)	(360)
Ending balance	2,617,022	2,444,303

Line items including amortization of intangible assets for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	202	22	202	2021	
	Three months	Nine months	Three months	Nine months	
Cost of sales Selling and administrative	15,113	46,849	14,578	45,023	
expenses	58,808	165,588	43,436	121,179	
Discontinued operations	3	7	9	180	
Total	73,924	212,444	58,023	166,382	

Total research and development costs recognized as expenses amounted to $\pm 1,261,592$ million (2021: $\pm 973,498$ million) for the nine-month periods ended September 30, 2022 and 2021.

Details of greenhouse gas emission permits included in other intangible assets are as follows:

Greenhouse gas emission permits held for the purpose of fulfilling obligations

The number of greenhouse gas emission permits received at free of charge for the 3rd planning period (2021 to 2025) is as follows:

(in thousands of tons)	2021	2022	2023	2024	2025	Total
Allocation with nil consideration	10,113	9,417	9,417	9,329	9,329	47,605

Changes in greenhouse gas emission permits during the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in thousands of	September 30, 2022								
tons and millions	202	2020		2021		2022		2023	
of Korean won)	Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount	
Beginning balance /Allocation with nil	0.000		10.110		0.447		0.447		
consideration	8,666	-	10,113	-	9,417	-	9,417	-	
Purchase/Sale	(69)	1,111	(285)	(20)	(36)	-	-	-	
Exchange Borrowings/Carry forwards between	100	-	(100)	-	-	-	-	-	
years Surrendered to the	(49)	(388)	(392)	388	438	-	-	-	
government	(8,648)	(723)	(9,336)	(368)	-	-	-	-	
Ending balance ¹	-	-	-	-	9,819	-	9,417	-	

(in thousands of tons and	September 30, 2022						
millions of Korean won)	202	4	202	2025		al	
	Quantity	Amount	Quantity	Amount	Quantity	Amount	
Beginning balance /							
Allocation with nil							
consideration	9,329	-	9,329	-	56,271	-	
Purchase/Sale	-	-	-	-	(390)	1,091	
Exchange	-	-	-	-	-	-	
Borrowings/Carry							
forwards between years	-	-	-	-	(3)	-	
Surrendered to the							
government		<u>-</u>	<u> </u>	<u>-</u>	(17,984)	(1,091)	
Ending balance ¹	9,329	-	9,329	-	37,894	-	

¹ The emission permits for 2021 is expected to be surrendered to the government after getting a certification in the current year.

(in thousands of	December 31, 2021								
tons and millions	202	2020		2021		2022		2023	
of Korean won)	Quantity	Amount	Quantity	Amount	Quantity	Amount	Quantity	Amount	
Beginning balance /Allocation with nil									
consideration	8,666	-	9,405	-	9,430	-	9,430	-	
Purchase/Sale	(69)	1,111	(54)	-	-	-	-	-	
Exchange	100	-	(100)	-	-	-	-	-	
Borrowings/Carry forwards between									
years	(49)	(388)	49	388	-	-	-	-	
Surrendered to the									
government	(8,648)	(723)	<u> </u>						
Ending balance	-		9,300	388	9,430	-	9,430		

(in thousands of tons and	December 31, 2021							
millions of Korean won)	202	4	202	2025		al		
	Quantity	Amount	Quantity	Amount	Quantity	Amount		
Beginning balance /								
Allocation with nil								
consideration	9,343	-	9,343	-	55,617	-		
Purchase/Sale	-	-	-	-	(123)	1,111		
Exchange	-	-	-	-	-	-		
Borrowings/Carry								
forwards between years	-	-	-	-	-	-		
Surrendered to the								
government		<u>-</u>	<u> </u>	<u>-</u>	(8,648)	(723)		
Ending balance	9,343		9,343		46,846	388		

During the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, there are no greenhouse gas emission permits held for short-term trading purpose.

13. Other Current and Non-Current Assets

Details of other current and non-current assets as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Current		
Prepayments to suppliers and prepaid expenses	427,454	201,019
Prepaid value added tax	314,782	465,660
Others	257,441	82,353
Total	999,677	749,032
Non-current		
Net defined benefit assets	317,693	45,050
Long-term prepayments and long-term prepaid expenses	152,810	70,775
Others	145_	96
Total	470,648	115,921

14. Borrowings

Borrowings as at September 30, 2022 and December 31, 2021, consist of:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Current		
Short-term borrowings	2,463,334	1,688,383
Current portion of long-term borrowings	780,861	1,056,963
Current portion of debentures	1,413,158	659,869
Current lease liabilities	83,939	71,865
	4,741,292	3,477,080
Non-current		
Long-term borrowings	5,094,187	3,628,563
Debentures	6,962,672	7,412,711
Lease liabilities	318,619	247,380
	12,375,478	11,288,654
Total	17,116,770	14,765,734

Details of short- and long-term borrowings and debentures as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of	Currency	Davila	Latest	Interest rate(%) as at	0	00 0000	December	04 0004
Korean won)		Bank	maturity date	September 30, 2022		er 30, 2022		r 31, 2021
Short-term borrowii	200				Current	Non-current	Current	Non-current
Bank loans	•	KB Kookmin	2023-09-20	3M LIBOR + 0.60 and	2,079,772	_	1,237,430	_
Dank loans	Foreign	Bank and others	2023-09-20	others	2,019,112	-	1,237,430	-
Nagatiatad	currency	Shinhan Bank	2022-12-17	3M EURIBOR + 0.50	383,562		450,953	
Negotiated	Foreign		2022-12-17		303,302	-	450,955	-
borrowings in	currency	and others		and others				
foreign currency					0.400.004		4 000 000	-
Total					2,463,334		1,688,383	
Long-term borrowir	ıgs							
Bank loans	Korean	KDB Bank and	2028-11-01	3.05 and others	-	500,000	-	450,000
	won	others						
	Foreign	KDB Bank and	2029-01-11	3M LIBOR + 0.95 and	780,861	4,594,914	1,056,963	3,178,563
	currency	others		others				
Less: discount on lon	g-term borrov	vings			-	(727)	-	-
Total	_	_			780,861	5,094,187	1,056,963	3,628,563
Debentures								
Public debentures	Korean	KB Securities	2036-02-19	3.29 and others	710,000	3,540,000	660.000	4,250,000
. 45.10 40201141.00	won	Co., Ltd and	2000 02 10	0.20 0.10 0.10.0	,	, ,	,	, ,
	****	others						
Private debentures	Korean	KB Securities	2036-05-07	2.52 and others	_	150,000	_	150,000
T TIVALO GODOTICATOS	won	Co., Ltd and	2000 00 01	2.02 and outloid		,		,
	WOII	others						
	Foreign	CITI Securities	2031-07-07	4.38 and others	704,416	3,300,040	-	3,042,170
	currency	and others						
Less: discount on de	bentures				(1,258)	(27,368)	(131)	(29,459)
Total					1,413,158	6,962,672	659,869	7,412,711
				•				

Details of lease liabilities as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022				
Leaser	Annual interest rate (%)	Latest maturity date	Total amount	Current	Non-current
Hyundai Oil Bank and others	0.65 ~ 8.68	2082.2.28	402,558	83,939	318,619
(in millions of Korean won)		ı	December 31, 2021		
	Annual	Latest			
Leaser	interest rate (%)	maturity date	Total amount	Current	Non-current
Hyundai Oil Bank and others	0.65 ~ 8.68	2068.3.31	319,245	71,865	247,380

15. Provisions

Changes in provisions for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of Korean						
won)	September 30, 2022					
		Greenhouse				
		gas	Legal			
	Warranty ¹	emission ²	claims ³	Restoration ⁴	Total	
Beginning balance	2,110,180	79	15,642	83,807	2,209,708	
Business Combination						
(Note 37)	4,999	-	-	-	4,999	
Additions	291,868	10,480	902	1,949	305,199	
Used	(1,085,496)	(3,860)	(1,039)	(28,248)	(1,118,643)	
Ending balance	1,321,551	6,699	15,505	57,508	1,401,263	
Less: current portion	(837,319)	(6,699)	-	(43,667)	(887,685)	
Total	484,232		15,505	13,841	513,578	
(in millions of Korean						
won)		De	cember 31, 202	1		

won)	December 31, 2021				
		Greenhouse			
	Warranty ¹	gas emission²	Legal claims³	Restoration ⁴	Total
Beginning balance Business Combination	1,244,017	4,875	8,286	112,829	1,370,007
(Note 37)	2,406	-	-	-	2,406
Additions (reversal)	1,477,429	(4,072)	14,013	14,186	1,501,556
Used	(613,672)	(724)	(6,657)	(43,208)	(664,261)
Ending balance	2,110,180	79	15,642	83,807	2,209,708
Less: current portion	(1,532,356)	(79)		(40,320)	(1,572,755)
Total	577,824		15,642	43,487	636,953

¹ Warranty provisions have been accrued based on historical experience for the estimated warranty costs to be incurred due to quality control, exchange, refunds with regard to products. In addition, provisions related to replacement costs for ESS and voluntary automotive battery recalls are determined based on the best estimate and included in the above warranty provision. The provisions are adjusted to reflect the current best estimate.

² Greenhouse gas emission provisions have been accrued for estimated expenditures to be

obligated for any excess emission. The estimated emission as at September 30, 2022 amounts to 7,182 thousand tons (September 30, 2021: 6,406 thousand tons).

16. Net Defined Benefit Liabilities (Assets)

Details of net defined benefit liabilities (assets) recognized in the consolidated statements of financial position as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Present value of defined benefit obligations ¹	1,286,727	1,616,781
Fair value of plan assets	(1,582,631)	(1,643,709)
Liabilities (assets) in the consolidated		
statement of financial position ²	(295,904)	(26,928)

¹ The present value of retirement benefit obligations is net of existing contributions to the National Pension Plan of ₩ 658 million as at September 30, 2022 (December 31, 2021: ₩ 708 million).

The amounts recognized in the consolidated statements of profit or loss for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	2022		2021	
	Three months	Nine months	Three months	Nine months
Current service cost ¹	52,746	158,352	47,693	143,050
Interest cost	(202)	(569)	428	1,554
Total, included in employee benefit expenses	52,544	157,783	48,121	144,604

¹ The above amounts excluded ₩ 921 million (2021: ₩ 1,896 million) of expenses capitalized to construction in progress and development costs.

Post-employment benefits recognized for defined contribution plan for the nine-month period ended September 30, 2022, amounted to \forall 8,125 million (2021: \forall 7,378 million).

Post-employment benefits recognized in the consolidated statements of profit or loss for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	202	22	202	21
	Three months	Nine months	Three months	Nine months
Cost of sales Selling and administrative	31,907	97,141	29,535	89,355
expenses	22,737	68,767	20,984	62,323
Discontinued operations			18	304
Total	54,644	165,908	50,537	151,982

³ Lawsuit provisions have been accrued for certain pending cases.

⁴ As at September 30, 2022, restoration provisions have been accrued for the estimated expenses to restore land pollutions and others.

² Net defined benefit assets are included in other non-current assets.

Movements in the present value of defined benefit obligations for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Beginning balance Increase in defined benefit obligations	1,616,781	1,454,596
due to business combination	-	54,897
Transfer in	8,273	39,334
Transfer out	(3,406)	(8,314)
Current service cost	159,273	193,938
Interest expense	34,746	37,257
Remeasurements:		
Actuarial loss from change in		
demographic assumptions	-	4,586
Actuarial gain from change in financial		
assumptions	(435,781)	(76,261)
Actuarial loss from experience		0.440
adjustments	-	9,142
Others	-	11,336
Exchange differences	(543)	(4,600)
Payments from plans	(92,616)	(99,130)
Ending balance	1,286,727	1,616,781

Movements in the fair value of plan assets for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Beginning balance	1,643,709	1,336,637
Increase in plan assets due to business		
combination	-	45,275
Transfer in	-	1,135
Transfer out	(612)	(1,238)
Interest income	35,315	35,198
Remeasurements:		
Return on plan assets (excluding amounts		
included in interest income)	(10,011)	(13,326)
Contributions:	,	,
Employers	1,303	332,299
Payments from plans	(84,323)	(89,445)
Administrative costs	(2,750)	(2,826)
Ending balance	1,582,631	1,643,709

The actual return on plan assets for the nine-month period ended September 30, 2022, was $\mbox{$\forall$}$ 25,304 million and for the year ended December 31, 2021, was $\mbox{$\forall$}$ 21,872 million.

The significant actuarial assumptions as at September 30, 2022 and December 31, 2021, are as follows:

	September 30, 2022	December 31, 2021
Discount rate	3.0% ~ 5.3%	2.9% ~ 3.0%
Salary growth rate	5.0%	5.0%

The sensitivity analysis for changes in key actuarial assumptions as at September 30, 2022, is as follows:

(in millions of Korean won)	Increase by 0.5%	Decrease by 0.5%
Discount rate: Increase (decrease) in defined benefit obligations	(72,557)	79,556
Salary growth rate: Increase (decrease) in defined benefit obligations	77,543	(71,530)

A decrease in corporate bond yields is a major factor contributing to an increase in defined benefit liabilities.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized on the statement of financial position.

The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to the prior period.

Plan assets as at September 30, 2022 and December 31, 2021, consist of:

(in millions of Korean won)	Septembe	er 30, 2022	December 31, 2021		
_	Amount	Composition (%)	Amount	Composition (%)	
Insurance contracts with guaranteed yield	1,569,019	99.1	1,629,239	99.1	
Equity linked bonds	12,382	0.8	12,988	0.8	
Time deposits	1,230	0.1	1,482	0.1	
	1,582,631	100.0	1,643,709	100.0	

Plan assets consist of various debt instruments with principal and interest protection and others which have no quoted market prices in an active market.

17. Other Current and Non-Current Liabilities

Details of other current and non-current liabilities as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Current		
Advances from customers	424,266	373,356
Dividends payable	62,297	-
Withholdings	92,723	143,600
Unearned revenues	102,219	104,121
Accrued expenses	714,915	699,592
Total	1,396,420	1,320,669
Non-current		
Long-term accrued expenses	61,666	73,880
Long-term unearned revenues	82,996	99,169
Long-term advanced received	55,461	16,829
Total	200,123	189,878

18. Commitments and Contingencies

- (1) The Parent Company is jointly liable for liabilities of LG Energy Solutions Co., Ltd. as at December 1, 2020, a newly established company through the split-off from the Parent Company.
- (2) As at September 30, 2022, the Parent Company and certain subsidiaries have been guaranteed from Seoul Guarantee Insurance Company for the execution of contracts and others.
- (3) As at September 30, 2022, the Parent Company and certain subsidiaries have various specific line of credit agreements with several financial institutions, as follows:

(unit: Korean won in millions, foreign currencies in millions)

Classification	The Parent	Company	Certain Overseas Subsidiaries							
	KRW	USD	KRW	USD	CNY	EUR	PLN	INR	THB	MYR
Limit of bank overdraft	20,400	-	8,700	50	1,400	93	-	_	10	-
Limit of the letter of credit	15,000	278	-	347	1,348	-	-	763	-	-
Limit of discount of notes		70.4		F44	0.000					
from export	-	724	-	511	2,900	-	-	-	-	-
Limit of guaranteed payments										
in other foreign currency	-	385	-	220	448	-	-	-	-	-
Limit of loan arrangements	800,000	725	10,000	3,487	8,704	2,938	155	4,521	-	450
Derivatives	-	-	-	1,546	-	-	-	-	-	-
Limit of other loans	-	-	-	70	-	-	-	-	-	-

The Group also entered into comprehensive credit line agreements with other financial institutions relating to trade finance and import/export amounting to $\mbox{$\psi 20,000$ million}$ (including bank overdraft of $\mbox{$\psi 5,000$ million}$) and USD 300 million. Certain subsidiaries entered into factoring agreements with limit of $\mbox{$\psi 150,000$ million}$ and CNY 450 million.

- (4) As at September 30, 2022, the Parent Company and certain subsidiaries have B2B purchase arrangements with several financial institutions with limit of ₩235,000 million and ₩150,000 million, respectively.
- (5) As at September 30, 2022, the Parent Company has reverse factoring agreements, and there is no utilized amount.
- (6) As at September 30, 2022, the Group's litigation status is as follows.
 - i) As at September 30, 2022, in connection with styrene monomer gas leakage accident, several lawsuits against LG Polymer India Pvt. Ltd., a subsidiary, have been filed with National Green Tribunal of India (NGT) and Andhra Pradesh High Court (APHC). The ultimate outcome of these cases cannot be determined at the reporting date. LG Polymer India Pvt. Ltd deposited INR 500 million under the order from NGT, and deposited INR 953 million generated from sales of inventories, under the order from APHC in connection with this accident. The manufacturing facility is currently closed with limited access in accordance with the order from APHC.
 - ii) As at September 30, 2022, in relation to price fixing of small rechargeable batteries, the consumers in Israel have filed a class action against a subsidiary. However, the ultimate outcome of these cases cannot be determined at the reporting date.
 - iii) As at September 30, 2022, in relation to General Motors (GM) Bolt EV, the class action against General Motors (GM) Bolt EV including the Group is still pending. However, the ultimate outcome of the case cannot be determined at the reporting date.
 - iv) In addition, as at September 30, 2022, the Parent Company and certain subsidiaries have been named as a plaintiff in 9 and 21 legal actions, respectively, involving $\mbox{$W$}26,701$ million and $\mbox{$W$}11,706$ million in claims, respectively. They have been named as a defendant in 12 and 145 legal actions, respectively, with $\mbox{$W$}43,345$ million and $\mbox{$W$}3,857$ million in claims, respectively. The ultimate outcome of these cases cannot be determined at the reporting date.
- (7) The Parent Company has entered into manufacture and production technical contracts with ExxonMobil and others.
- (8) The Parent Company has entered into a license agreement with LG Corp. to use trademarks on the products that the Group manufactures and sells, and on the services the Group provides in relation to its business.
- (9) As at September 30, 2022, the Parent Company has entered into payment guarantee contract of USD 6 million, and certain subsidiaries have entered into payment guarantee contracts of USD 52 million, EUR 2 million and ₩7,755 million with financial institutions to guarantee the warrant of products and payment. Certain subsidiaries have entered into payment guarantee contract of CNY 444 million with financial institutions in relation to custom of imported raw materials.

(10) Capital expenditure arrangement that has not incur at the end of the reporting period is as follows:

(in millions of Korean won) September 30, 2022 December 31, 2021

Property, plant and equipment 6,044,423 3,822,461

- (11) As at September 30, 2022, the Group has entered into an agreement with General Motors (GM) regarding joint investment in Ultium Cells LLC, whereby each party can sell its shares to third parties in 8 years after the inception of the contract. In addition, if one party defaults, the other party has the right to purchase shares from the other party. The Group completed the process of approval by the government for the use of core technologies according to the Industrial Technology Protection Act.
- (12) As at September 30, 2022, the Group has entered into a joint venture agreement with Honda in which the Group agreed to invest USD 1,802 million.
- (13) As at September 30, 2022, the Group has entered into a joint venture agreement with Stellantis in which the Group agreed to invest USD 1,464 million.
- (14) As at September 30, 2022, the Group and certain subsidiaries' investment agreements, are as follows:

(in millions of Korean won and		Committed	Cumulative	
USD)	Currency	investments	investments	Remaining
KBE Fund	KRW	150,000	53,760	96,240
Gross Acceleration Fund	KRW	5,000	4,750	250
BNZ(Beyond Net Zero) Fund	USD	150	46	104
Secondary battery growth Fund	KRW	6,700	2,010	4,690
U.S. Venture Partners XII ¹	USD	5	4	1
U.S. Venture Partners XIII ¹	USD	5	-	5
Phoenix Venture Partners III ¹	USD	10	4	6

¹ Investment agreements of LG Chem Fund I LLC.

Category

(15) The Parent Company acquired 50% of new shares issued by LG Toray Hungary Battery Separator kft. for USD 375 million in accordance with the joint venture agreement with Toray Industries, Inc. during the nine-month period ended September 30, 2022. The shares were recognized as investment in associates as it was determined that there was a joint control under the agreement. The details on agreements entered into upon the acquisition of shares are as follows:

Details

Agreement to purchase After 30 months from the acquisition date of the 50% shares.

additional shares	purchasing the 20% shares through the agreed pricing method
Restrictions on share transfer	 During the lock-up period¹, share transfer is prohibited without prior written consent of the other shareholder. When sold to a third party, the Parent Company holds a dragalong right and Toray Industries, Inc. holds a tag-along right.
Default	In case the Parent Company or the contracting party defaults, non-default shareholder and subsidiaries have the right to request the default shareholder to sell their shares (Call Option) and the default shareholder to purchase the shares held by the non-default shareholder (Put Option).
Exit put option	Once the lock-up period¹ ends, the other shareholder has a put option to sell the remaining 30% of the shares to the Parent Company.
Deadlock	In the event of a dead lock agreed by both parties, 1) the Parent Company holds a call option to request the counterparty's company and affiliates to sell their shares. 2) The other party holds a put option to request the Parent Company to purchase shares of the counterparty.

¹ Lock-up period: restriction period of share transfer for 5 years from the time the Parent Company acquires 50% of the shares.

19. Share Capital

Changes in share capital and share premium for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of Korean won and in shares)	Ordinary s	shares	Preferred :	shares	
	Number of shares	Share capital	Number of shares	Share capital	Share premium
January 1, 2021	70,592,343	352,962	7,688,800	38,444	2,014,036
December 31, 2021	70,592,343	352,962	7,688,800	38,444	2,014,036
September 30, 2022	70,592,343	352,962	7,688,800	38,444	2,014,036

Changes in treasury shares for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

	Number o	f shares		Gain on	
(in millions of Korean won and in shares)	Ordinary shares	Preferred shares	Carrying amount	disposal of treasury shares	
January 1, 2021 Treasury shares reduction due to the exercise of	464,842	16,368	35,699	431,720	
exchange rights Disposal of treasury	(91,228)	-	(14,302)	28,344	
shares ¹	(6,085)	(10,327)	(3,386)	3,744	
December 31, 2021	367,529	6,041	18,011	463,808	
September 30, 2022	367,529	6,041	18,011	463,808	

¹ After the exchange of exchangeable bonds, all of the remaining treasury shares purchased in early 2017 due to the exercise of share purchase rights by the dissenting shareholders who objected to the merger with LG Life Sciences, Ltd. have been disposed of during the year ended December 31, 2021.

Capital surplus as at September 30, 2022, and December 31, 2021, consist of:

September 30, 2022	December 31, 2021
206,769	206,769
2,014,036	2,014,036
463,808	463,808
8,692,824	11,772
11,377,437	2,696,385
	2,014,036 463,808 8,692,824

20. Retained Earnings

Retained earnings as at September 30, 2022 and December 31, 2021, consist of:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Legal reserve ¹	571,496	540,492
Discretionary reserve ²	14,570,240	12,945,537
Retained earnings before appropriation	4,263,328	4,605,920
Total	19,405,064	18,091,949

¹ The Commercial Code of the Republic of Korea requires the Group to appropriate for each financial period, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued share capital. The reserve is not available for cash dividends payment but may be transferred to share capital or used to reduce accumulated deficit. When the accumulated legal reserves (the sum of capital reserves and earned profit reserves) are greater than 1.5 times the paid-in capital amount, the excess legal reserves may be distributed in accordance with a resolution of the shareholders' meeting.

² The Group separately accumulates a discretionary reserve for research and human resource

development through appropriation of retained earnings, which has been included as deductible expense for the corporate income tax return according to the Special Tax Treatment Law. Among these reserves, the used amounts for each specific purpose and the balances after use can be transferred to discretionary reserve and will be able used for dividends.

21. Other Components of Equity

Details of other components of equity as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Treasury shares (Note 19)	(18,011)	(18,011)
Capital transactions within the Group Total	(19,299) (37,310)	(19,299) (37,310)

22. Selling and Administrative Expenses

Selling and administrative expenses for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	2022		2022			2021		
_	Three months	Nine months	Three months	Nine months				
Wages and salaries	470,150	1,174,854	326,035	889,571				
Post-employment benefits (Note 16)	22,737	68,767	20,984	62,323				
Employee benefits	73,548	216,184	57,910	170,992				
Travel expense	23,691	58,964	11,539	29,526				
Water & utilities	26,517	69,823	18,872	53,238				
Packaging expense	4,836	8,395	2,332	5,580				
Rental expenses	41,181	111,336	34,170	94,492				
Commission expenses	282,194	730,785	220,017	582,356				
Depreciation (Notes 11 and 36)	74,781	215,530	61,701	176,841				
Advertising expense	12,285	32,643	8,439	24,871				
Freight expenses	409,503	1,290,671	260,163	676,557				
Training expense	14,359	33,670	8,355	19,675				
Amortization (Note 12)	58,808	165,588	43,436	121,179				
Sample expense	6,450	19,109	4,923	14,472				
Development costs	92,977	259,755	68,093	179,715				
Others	252,744	530,901	775,059	1,571,962				
Total	1,866,761	4,986,975	1,922,028	4,673,350				

23. Classification of Expenses by Nature

Cost of sales, and selling and administrative expenses by nature for the three-month and nine-month periods ended September 30, 2022 and 2021, consist of:

(in millions of Korean won)	202	2022		2021		
	Three months	Nine months	Three months	Nine months		
Changes in inventories of merchandise, finished goods, semi-finished goods						
and work in process	(903,274)	(2,932,170)	(739,970)	(1,537,108)		
Raw materials and consumables used	9,230,943	24,706,659	6,311,353	17,627,224		
Purchase of merchandise	607,189	1,270,995	340,947	935,099		
Employee benefit expenses (Note 24)	1,294,555	3,398,294	899,823	2,569,868		
Advertising expenses	12,555	33,524	8,738	25,756		
Freight expenses	425,106	1,333,795	271,823	710,301		
Commission expenses	468,365	1,243,313	368,670	1,024,653		
Depreciation and amortization	875,618	2,486,996	738,177	2,049,571		
Rent expenses and usage fee	27,963	78,912	23,135	61,684		
Other expenses	1,237,457	3,587,839	1,647,667	3,920,737		
Total	13,276,477	35,208,157	9,870,363	27,387,785		

24. Employee Benefit Expenses

Details of employee benefit expenses for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	202	2022		2021		
	Three months	Nine months	Three months	Nine months		
Salaries Post-employment benefits	1,110,894	2,844,062	804,862	2,181,416		
 Defined benefit plan (Note 16) Post-employment benefits 	52,544	157,783	48,103	144,300		
 Defined contribution plan (Note 16) 	2,100	8,125	2,416	7,378		
Others	129,017	388,324	44,442	236,774		
Total	1,294,555	3,398,294	899,823	2,569,868		

25. Finance Income and Costs

Details of finance income and costs for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	202	2	2021		
	Three	Nine	Three	Nine	
	months	months	months	months	
Finance income					
Interest income ¹	74,995	199,932	32,534	55,022	
Dividend income	1,211	1,538	4,875	5,963	
Exchange differences	167,934	418,579	45,908	296,564	
Gain related to derivative instruments	399,210	579,341	118,932	163,055	
Others	10,438	12,244	(4,076)	7,788	
Total	653,788	1,211,634	198,173	528,392	
Finance costs					
Interest expense ²	83,312	208,457	65,628	152,722	
Exchange differences	716,848	1,217,466	221,793	415,179	
Loss related to derivative instruments	29,691	49,904	(4,993)	8,104	
Others	768	1,910	182	266	
Total	830,619	1,477,737	282,610	576,271	

¹ Details of interest income for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	202	22	2021		
	Three months	Nine months	Three months	Nine months	
Deposits held by financial institutions	52,185	142,757	8,169	24,110	
Other loans and receivables	22,810	57,175	24,365	30,912	
Total	74,995	199,932	32,534	55,022	

² Details of interest expense for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	2022		2021		
	Three months	Nine months	Three months	Nine months	
Interest on financial institutions	31,377	62,395	14,831	34,979	
Interest on lease liabilities	2,302	6,976	1,610	5,341	
Interest on debentures	48,275	137,407	45,437	120,234	
Other interest expenses	6,007	15,868	10,433	32,502	
Capitalized interest for qualifying assets	(4,649)	(14,189)	(6,683)	(40,334)	
Total	83,312	208,457	65,628	152,722	

26. Other Non-Operating Income

Details of other non-operating income for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	2022		2021		
	Three months	Nine months	Three months	Nine months	
Exchange differences Gain on disposal of property, plant and	996,151	1,736,050	302,128	630,161	
equipment	42,560	76,476	2,979	34,803	
Gain on disposal of intangible assets Gain on disposal of investments in	-	8	-	15	
associates	-	-	3,820	3,820	
Profit from bargain purchase	-	30,674	-	-	
Insurance income	4,695	51,084	50,751	59,815	
Others	7,880	30,514	9,688	24,261	
Total	1,051,286	1,924,806	369,366	752,875	

27. Other Non-Operating Expenses

Details of other non-operating expenses for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	2022		2021		
	Three months	Nine months	Three months	Nine months	
Exchange differences Loss on disposal of property, plant and	769,091	1,365,318	219,068	484,083	
equipment	17,958	42,675	10,882	43,751	
Loss on disposal of intangible assets Impairment loss on property, plant and	3,279	22,930	3	109	
equipment (Note 11) Impairment loss on intangible assets	29,164	48,769	21,825	27,487	
(Note 12)	274	314	46	60	
Loss on disposal of investments in					
associates	-	-	2,054	2,054	
Loss on disasters	8,990	22,498	1,261	14,247	
Donations	2,782	14,038	2,045	9,780	
Others	4,676	31,376	17,077	26,849	
Total	836,214	1,547,918	274,261	608,420	

28. Tax Expense and Deferred Tax

Income tax expense is recognized based on the best estimate of weighted average annual income tax rate expected for the full financial year. The estimated average annual income tax rate used for the year ending December 31, 2022, is 24.1% (the estimated tax rate for the year ended December 31, 2021: 24.4%).

29. Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to owners of the Parent Company by the weighted average number of shares in issue excluding shares purchased by the Parent Company and held as treasury shares. As at the reporting date, the Parent Company has no potential ordinary shares. Preferred shares have a right to participate in the profits of the Group. These participation rights have been considered in presenting the earnings per share information for both of ordinary shares and preferred shares.

Basic earnings per share for profit from continuing operations and earnings per share attributable to the equity holders of the Parent Company for the three-month and nine-month periods ended September 30, 2022 and 2021, are computed as follows:

Basic earnings per ordinary share from continuing operations

(in millions of Korean won and				
in number of shares)	20	22	20	21
	Three months	Nine months	Three months	Nine months
Profit from continuing operations attributable to				
ordinary shares ¹	525,660	1,740,087	569,125	2,795,823
Weighted average number of ordinary shares				
outstanding ²	70,224,814	70,224,814	70,217,122	70,217,122
Basic earnings per ordinary share from				
continuing operations (in won)	7,485	24,779	8,105	39,817

Basic earnings per ordinary share

(in millions of Korean won and in number of shares)	20	22	20	21
	Three months	Nine months	Three months	Nine months
Profit attributable to ordinary shares ¹ Weighted average number of ordinary shares	553,700	1,768,158	549,942	3,071,230
outstanding ²	70,224,814	70,224,814	70,217,122	70,217,122
Basic earnings per ordinary shares (in won)	7,885	25,179	7,832	43,739

Basic earnings per preferred share from continuing operations

(in millions of Korean won and				
in number of shares)	202	22	202	21
	Three months	Nine months	Three months	Nine months
Profit from continuing operations attributable to				
preferred share ¹	57,604	190,658	62,282	305,781
Weighted average number of preferred shares				
outstanding ²	7,682,759	7,682,759	7,672,432	7,672,432
Basic earnings per preferred share from				
continuing operations (in won)	7,498	24,816	8,118	39,854

Basic earnings per preferred share

(in millions of Korean won and in number of shares)	202	22	202	21
	Three months	Nine months	Three months	Nine months
Profit attributable to preferred shares ¹ Weighted average number of preferred shares	60,672	193,729	60,186	335,872
outstanding ²	7,682,759	7,682,759	7,672,432	7,672,432
Basic earnings per preferred shares (in won)	7,896	25,216	7,844	43,777

¹ Profit attributable to ordinary and preferred shares are as follows:

(in millions of Korean won)	202	2	2021	
	Three months	Nine months	Three months	Nine months
Profit from continuing operations attributable to the owners of the Parent				
Company	583,264	1,930,745	631,407	3,101,604
Ordinary shares dividends (A)	210,674	632,023	175,543	526,627
Preferred shares dividends (B)	23,145	69,433	19,277	57,832
Undistributed earnings from continuing				
operation for the period Undistributed earnings available for ordinary	349,445	1,229,289	436,587	2,517,145
shares (C) Undistributed earnings available for preferred	314,986	1,108,064	393,582	2,269,196
shares (D) Profit from continuing operations for the	34,459	121,225	43,005	247,949
period attributable to ordinary shares (A+C) Profit from continuing operations for the period attributable to preferred shares	525,660	1,740,087	569,125	2,795,823
(B+D)	57,604	190,658	62,282	305,781

(in millions of Korean won)	202	22	2021		
	Three months	Nine months	Three months	Nine months	
Profit attributable to the owners of the					
Parent Company	614,372	1,961,887	610,128	3,407,102	
Ordinary shares dividends (A)	210,674	632,023	175,543	526,627	
Preferred shares dividends (B)	23,145	69,433	19,277	57,832	
Undistributed earnings for the period Undistributed earnings available for ordinary	380,553	1,260,431	415,307	2,822,644	
shares (C) Undistributed earnings available for preferred	343,026	1,136,135	374,399	2,544,603	
shares (D) Profit for the period attributable to ordinary	37,527	124,296	40,909	278,040	
shares (A+C) Profit for the period attributable to ordinary	553,700	1,768,158	549,942	3,071,230	
shares (B+D)	60,672	193,729	60,186	335,872	

² Weighted average numbers of shares are calculated as follows:

		2022				
Ordinary shares outstanding	Period	Number of shares	Number of days	Number of shares x days		
Beginning balance Total	2022. 1. 1 - 2022. 9. 30	70,224,814	273	19,171,374,222 19,171,374,222		

Weighted average number of ordinary shares outstanding: 19,171,374,222 / 273 = 70,224,814 shares

	2022				
Preferred shares outstanding	Period	Number of shares	Number of days	Number of shares x days	
Beginning balance Total	2022. 1. 1 - 2022. 9. 30	7,682,759	273	2,097,393,207 2,097,393,207	

Weighted average number of preferred shares outstanding: 2,097,393,207 / 273 = 7,682,759 shares

	2021				
Ordinary shares outstanding	Period	Number of shares	Number of days	Number of shares x days	
Beginning balance	2021. 1. 1 - 2021. 9. 30	70,163,895	273	19,154,743,335	
Conversion of treasury shares	2021. 1. 9 - 2021. 9. 30	54,834	265	14,531,010	
Total				19,169,274,345	

Weighted average number of ordinary shares outstanding: 19,169,274,345 / 273 = 70,217,122 shares

	2021				
Preferred shares outstanding	Period	Number of shares	Number of days	Number of shares x days	
Beginning balance Total	2021. 1. 1 - 2021. 9. 30	7,672,432	273	2,094,573,936 2,094,573,936	

Weighted average number of preferred shares outstanding: 2,094,573,936 / 273 = 7,672,432 shares

For the nine-month period ended September 30, 2022, there were no dilutive potential outstanding ordinary shares at the reporting date. Accordingly, diluted earnings per share for profit attributable to owners of the Parent Company is identical to basic earnings per share. In addition, for the nine-month period ended September 30, 2021, the Parent Company did not calculate diluted earnings per share due to antidilution effect.

Basic and diluted earnings (losses) per share attributable to ordinary and preferred shares from discounted operations for the three-month and nine-month periods ended September 30, 2022 and 2021, are as follows:

(in Korean won and in number of shares) 2022		22	2021		
	Three months	Nine months	Three months	Nine months	
Basic earnings (losses) per ordinary share					
from discounted operations	399	400	(273)	3,922	
Basic earnings (losses) per preferred share					
from discounted operations	399	400	(273)	3,922	
Diluted earnings (losses) per ordinary share					
from discounted operations	399	400	(273)	3,922	
Diluted earnings (losses) per preferred share					
from discounted operations	399	400	(273)	3,922	

30. Dividends

The $\mbox{$W$}$ 935,275 million (2021: $\mbox{$W$}$ 778,383 million) of dividends for the year ended December 31, 2021, was paid to the shareholders of the Parent Company in April 2022.

31. Related Party Transactions

As at September 30, 2022 and December 31, 2021, LG Corp. is an entity exercising a significant influence over the Group, which owns 33.34% of the Parent Company's ordinary shares.

Details of associates and other related parties that have sales and other transactions with the Group or have receivables and payables balances as at September 30, 2022 and December 31, 2021, are as follows, and the details of investments in subsidiaries, associates and joint ventures are described in Note 1.3:

Related party	Related party's subsidiary (Domestic)	Related party's subsidiary (Overseas)	Details
D&O Corp. ¹	D&O CM Corp. Co.,Ltd.	D&O CM NANJING and others	Subsidiary of LG Corp.
LG CNS Co., Ltd.	BIZTECH I CO., LTD. and others	LG CNS America Inc. and others	Subsidiary of LG Corp.
LG Management Development Institute	-	-	Subsidiary of LG Corp.
LG Sports Ltd. LG Holdings Japan	- -	- -	Subsidiary of LG Corp. Subsidiary of LG Corp.
LG Display Co., Ltd.	-	LG Display (China) Co., Ltd. and others	LG Enterprise group ^{2,3}
LG Electronics Inc.	LG Innotek Co., Ltd. and others	Inspur LG Digital Mobile Communications Co., Ltd. and others	LG Enterprise group ^{2,3}
LG Household & Health Care Ltd.	Coca-Cola Beverage Co. and others	-	LG Enterprise group ^{2,3}
LG Uplus Corp.	LG HelloVision Corp.	-	LG Enterprise group ^{2,3}
G II R Inc.	HS AD Inc.	Beijing Yuanzhimeng Advertising Co., Ltd.	LG Enterprise group ^{2,3}

Sales and purchases with related parties for the nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)			2022			
			Purchas	se and others		
	Sales and others	Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Acquisition of right-of-use assets	Interest expense	Others
Entity with a significant						
influence over the Group						
LG Corp.	-	-	1,273	-	131	79,589
Associates and joint ventures						
SEETEC Co., Ltd.	97,135	176,405	-	-	298	61,053
TECWIN Co., Ltd. HUAJIN NEW ENERGY	-	330	1,646	-	-	92
MATERIALS(QUZHOU)						
CO., LTD.	-	234,594	-	_	-	_
PT. HLI Greenpower Co.,		•				
Ltd.	34,471	_	-	_	_	-
Others	3,345	8,256	-	-	_	143
Other related parties						
D&O Corp. and its subsidiaries and						
associates	165	5,197	356,480	-	-	70,793
LG CNS Co., Ltd. and						
its subsidiaries	14,772	2,372	362,190	-	13	153,065
Others	-	-	-	-	-	38,951
Others						
LG Display Co., Ltd. and its subsidiaries LG Electronics Inc. and	436,421	40	-	-	10	71
its subsidiaries and joint ventures	1,054,606	295,966	344,701	-	285	27,161
LX International Corp. and its subsidiaries ¹	43,477	266,666	79,395	-	9	812,884
LX Hausys, Ltd. and its subsidiaries ¹	147,990	4,552	1,048	_	_	3
LX MMA Corporation ^{1,2}		109,790	1,040	-	-	2,582
Others	111,379		-	-	38	
	8,147	27,964	59	<u>-</u>		6,377
Total	1,951,908	1,132,132	1,146,792		784	1,252,764

¹ During the nine-month period ended September 30, 2022, the entity's name of S&I Corp. and its subsidiaries has been changed.

² Although these entities are not the related parties of the Group in accordance with K-IFRS 1024, these entities belong to a large enterprise group in accordance with the Monopoly Regulation and Fair Trade Act.

³ During the nine-month period ended September 30, 2022, LX Holdings Corp. and its affiliates were excluded from the LG Group due to the spin-off of LG Corp.

(in millions of Korean won)			2021			
			Purchas	se and others		
	Sales and others	Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Acquisition of right-of-use assets	Interest expense	Others
Entity with a significant influence over the Group LG Corp.	_	_	_	_	128	66,353
Associates and joint					120	00,000
ventures						
SEETEC Co., Ltd.	47,285	127,574	15	92	316	50,806
TECWIN Co., Ltd.	10	150	924	_	_	38
HL Greenpower Co., Ltd.3	470,525	440	-	_	_	-
HUAJIN NEW ENERGY MATERIALS(QUZHOU)	804					
CO., LTD. PT. HLI Greenpower Co.,	004	66,532	-	-	-	-
Ltd.	7,635	_	-	_	_	_
Others	3,996	7,895	_	_	_	2,009
Other related parties	-,	,				,
D&O Corp. and its						
subsidiaries	72	8,148	399,376	-	-	83,031
LG CNS Co., Ltd. and						
its subsidiaries	9,848	3,174	244,542	-	13	110,284
Others	124	-	-	-	-	25,025
Others						
LG Display Co., Ltd. and its subsidiaries LG Electronics Inc. and its subsidiaries and joint	473,638	102	-	-	12	2
ventures	1,178,804	828,887	221,136	-	29	17,623
LX International Corp. and its subsidiaries LX Hausys, Ltd. and	78,711	326,608	16,980	-	1	770,659
its subsidiaries	203,243	390	31,873	-	-	659
LX MMA Corporation ²	104,221	148,433	-	-	-	2,816
Others	7,707	25,811	1,078	9	48	5,862
Total	2,586,623	1,544,144	915,924	101	547	1,135,167

¹ The entity has been excluded from the related parties due to the spin-off from LG Corp. during the nine-month perioded September 30, 2022. Transactions with this entity until the spin-off from LG Corp. have been included in the above information.

² Net sales and purchase amounts after offsetting for Raffinate transactions with LX MMA Corporation.

³ This entity has been excluded from the related parties since the Group sold its shares in 2021. Transactions with this entity until the sale of shares have been included in the above information.

Balances of receivables and payables arising from sales and purchases of goods and services as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022 Receivables						
	Trade receivables and others	Loan receivables	Other receivables	Total			
Entity with a significant influence over the Group							
LG Corp.	-	-	10,086	10,086			
Associates and joint ventures							
SEETEC Co., Ltd.	13,429	-	1,018	14,447			
TECWIN Co., Ltd. HUAJIN NEW ENERGY MATERIALS(QUZHOU) CO., LTD.	-	-	-	-			
PT. HLI Greenpower Co., Ltd.	-	_	-	-			
Others	1,986	-	-	1,986			
Other related parties							
D&O Corp. and its subsidiaries and associates ¹	-	-	31	31			
LG CNS Co., Ltd. and its subsidiaries	3,917	-	282	4,199			
Others	-	-	-	-			
Others							
LG Display Co., Ltd. and its subsidiaries LG Electronics Inc. and its subsidiaries and joint ventures ²	89,919 498,590	-	1,000 9,201	90,919 507,791			
Others	26	_	1,619	1,645			
Total	607,867	-	23,237	631,104			

(in millions of Korean won)	September 30, 2022 Payables				
	Trade payables	Borrowings	Lease liabilities	Other payables	Total
Entity with a significant influence over the Group					
LG Corp.	-	-	3,012	13,637	16,649
Associates and joint ventures					
SEETEC Co., Ltd.	22,505	-	23,204	9,964	55,673
TECWIN Co., Ltd. HUAJIN NEW ENERGY MATERIALS(QUZHOU)	-	-	-	7	7
CO., LTD.	62,796	-	-	-	62,796
PT. HLI Greenpower Co., Ltd.	-	-	-	99,583	99,583
Others	-	-	-	49	49
Other related parties					
D&O Corp. and its subsidiaries and associates ¹	-	-	-	236,323	236,323
LG CNS Co., Ltd. and its subsidiaries	749	-	301	178,508	179,558
Others	-	-	-	1,504	1,504
Others					
LG Display Co., Ltd. and its subsidiaries LG Electronics Inc. and its subsidiaries and joint	10	-	567	45	622
ventures ²	109,320	-	18,000	120,412	247,732
Others	727	<u> </u>	2,974	5,243	8,944
Total	196,107		48,058	665,275	909,440

(in millions of Korean won)	December 31, 2021						
		Receiva	bles				
	Trade receivables and others	Loan receivables	Other receivables	Total			
Entity with a significant influence over the Group							
LG Corp.	-	-	9,983	9,983			
Associates and joint ventures							
SEETEC Co., Ltd.	7,426	-	462	7,888			
TECWIN Co., Ltd.	-	-	-	-			
HUAJIN NEW ENERGY MATERIALS(QUZHOU) CO., LTD.	-	-	-	-			
Others	463	-	4,586	5,049			
Other related parties							
D&O Corp. and its subsidiaries and affiliates ¹	388	-	8,762	9,150			
LG CNS Co., Ltd. and its subsidiaries	5,632	-	326	5,958			
Others	-	-	6,739	6,739			
Others							
LG Display Co., Ltd. and its subsidiaries LG Electronics Inc. and its subsidiaries and joint	110,826	-	935	111,761			
ventures ²	270,116	-	25,438	295,554			
LX International Corp. and its subsidiaries	2,676	-	-	2,676			
LX Hausys, Ltd. and its subsidiaries	58,934	-	55	58,989			
LX MMA Corporation	20,754	-	625	21,379			
Others	23		1,773	1,796			
Total	477,238		59,684	536,922			

(in millions of Korean won)		De	ecember 31, 202	21	
			Payables		
	Trade payables	Borrowings	Lease liabilities	Other payables	Total
Entity with a significant influence over the Group					
LG Corp.	-	-	11,866	23,609	35,475
Associates and joint ventures					
SEETEC Co., Ltd.	17,164	-	24,653	10,310	52,127
TECWIN Co., Ltd.	317	-	-	16,116	16,433
HUAJIN NEW ENERGY MATERIALS(QUZHOU) CO., LTD.	48,054	-	-	-	48,054
Others	-	-	-	410	410
Other related parties					
D&O Corp. and its subsidiaries and affiliates ¹	-	-	-	282,691	282,691
LG CNS Co., Ltd. and its subsidiaries	233	-	1,192	316,160	317,585
Others	-	-	-	715	715
Others					
LG Display Co., Ltd. and its subsidiaries LG Electronics Inc. and its subsidiaries and joint	32	-	595	2,942	3,569
ventures ²	59,289	-	18,694	148,185	226,168
LX International Corp. and its subsidiaries	18,467	-	-	182,716	201,183
LX Hausys, Ltd. and its subsidiaries	-	-	-	5,501	5,501
LX MMA Corporation	15,960	-	-	-	15,960
Others	3,226	<u> </u>	3,479	8,583	15,288
Total	162,742		60,479	997,938	1,221,159

Fund transactions with related parties for the nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)				2022			
			Equity	Loa	ins	Borrov	wings ¹
	Dividends received	Dividends paid	contributions in cash (capital reduction)	Loans	Repayment	Borrowings	Repayment
Entity with a significant influence over the Group							
LG Corp.	_	282,411	_	_	_	_	8,865
Associates and joint		,					3,000
ventures							
SEETEC Co., Ltd.	5,000	_	_	_	_	1	717
LG Toray Hungary Battery	2,222						
Separator Kft. ²	_	-	483,638	-	-	-	-
KOREA PRECURSOR							
CO.,LTD.	-	-	20,384	-	-	-	-
Other related parties							
LG CNS Co., Ltd.	_	_	_	_	_	_	891
Others							
LG Display America, Inc.	_	-	-	-	-	-	129
LX Pantos Poland							
sp.z.o.o ³	-	-	-	-	-	62	7
PANTOS LOGISTICS							
MEXICO S.A. de C.V ³	-	-	-	-	-	2,384	320
LX PANTOS TURKEY							
LOJISTIK ³	-	-	-	-	-	337	41
LG Electronics							
Deutschland GmbH	-	-	-	-	-	-	218
LG ELECTRONICS							
WROCLAW SP. Z O.O.	-	-	-	-	-	-	1,047
LG HOUSEHOLD &							
HEALTH CARE LTD	-	-	<u> </u>				469
Total -	5,000	282,411	504,022	-		2,784	12,704

¹ During the nine-month period ended September 30, 2022, the Group collected other receivables to D&O Corp. (formerly, S&I Corp.) which includes the amount of deposits classified as memberships in the consolidated financial statements of the Group. The amount is included in other receivables for the year ended December 31, 2021.

² The warranty provision related to the recall of GM Bolt is not included in the above receivables and payables.

(in millions of Korean won)				2021			
			Equity	Lo	ans	Borrov	wings ¹
	Dividends received	Dividends paid	contributions in cash (capital reduction)	Loans	Repayment	Borrowings	Repayment
Entity with a significant influence over the Group LG Corp.	_	235,342	_	_	_	_	8,950
Associates and joint		, -					,,,,,,
ventures							
SEETEC Co., Ltd.	10,000	-	-	-	-	92	6,383
PT. HKML Battery							
Indonesia	-	-	209,132	-	-	-	-
Other related parties							
LG CNS Co., Ltd.	-	-	-	-	-	-	2,931
LG Holdings Japan							
Co.,Ltd.	-	-	-	-	-	-	91
Others							
LG Display America, Inc.	-	-	-	-	-	-	108
Pantos Logistics France	-	-	-	-	-	-	419
Pantos Logistics Spain							
S.L.	-	-	-	-	-	-	161
LG Electronics							
Deutschland GmbH	-	-	-	-	-	-	214
LX Hausys, Ltd.	-	-	-	-	-	-	571
LG HOUSEHOLD &							
HEALTH CARE LTD				-	- <u>-</u>	9	1,124
Total	10,000	235,342	209,132	-		101	20,952

¹ The amounts represent lease liabilities that were recognized or repaid for the nine-month periods ended September 30, 2022 and 2021.

Compensation for key management of the Group for the nine-month periods ended September 30, 2022 and 2021, consists of:

(in millions of Korean won)	2022	2021
Short-term employee benefits	90,609	66,858
Post-employment benefits	9,011	12,588
Total	99,620	79,446

Key management includes directors and audit committee members having duties and responsibilities over planning, operations and controlling of the Group's business activities.

² The amount is related to the acquisition of 50% of the shares during the nine-month period ended September 30, 2022.

³ The entity has been excluded from the related parties due to the spin-off from LG Corp. during the nine-month period September 30, 2022. Transactions with this entity until the spin-off from LG Corp. have been included in the above information.

There are no loss allowance recognized against receivables from related parties as at September 30, 2022 and December 31, 2021; therefore, there are no impairment losses recognized against the receivables from related parties for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021.

As at September 30, 2022, there are no payment guarantees provided by the Group for related parties.

32. Cash Flows

Cash generated from operations for the nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Profit before income tax		
Profit before income tax from continuing operations	2,920,704	4,756,555
Profit before income tax from discontinued operations	2,891,879	4,379,221
·	28,825	377,334
Adjustments for:		
Depreciation	2,275,556	1,888,707
Amortization	212,444	166,382
Post-employment benefits	157,783	144,604
Finance income	(894,735)	(261,340)
Finance costs	1,292,916	386,269
Other foreign exchange differences	(304,003)	(87,265)
Loss (gain) on valuation of inventories	121,246	21,971
Gain on disposal of property, plant and equipment	(76,829)	(42,735)
Gain on disposal of intangible assets	(8)	(15)
Loss on disposal of property, plant and equipment	42,675	43,759
Loss on disposal of intangible assets	22,930	155
Reversal of impairment loss on property, plant and	(-)	
equipment	(705)	-
Impairment loss on property, plant and equipment	48,769	28,049
Impairment loss on intangible assets	314	60
Gain on disposal of investments in associates	-	(1,766)
Gain on disposal of business	-	(371,125)
Additions to provisions	305,199	1,369,331
Other income/expenses	3,187	5,773
Increase in inventories	(3,940,452)	(2,403,273)
Increase in trade receivables	(1,641,197)	(799,829)
Decrease (increase) in other receivables	75,187	(1,021,338)
Increase in other current assets	(408,512)	(61,404)
Increase in trade payables	780,256	291,734
Increase in other payables	125,015	1,080,692
Increase in other current liabilities	139,972	64,470
Decrease in provisions	(1,118,643)	(383,910)
Increase (decrease) in net defined benefit liabilities	(1,367)	18,399
Other cash flows from operations	(43,255)	(22,039)
Cash generated from operations	94,447	4,810,871

Changes in liabilities arising from financial activities for the nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of			2	022		
Korean won)		Cash flows				
	As at	from				As at
	January 1,	financing				September
	2022	activities	Amortization	Lease liabilities	Others	30, 2022
Borrowings	6,373,909	1,384,503	-	-	579,970	8,338,382
Debentures	8,072,580	(271,766)	-	5,981	569,035	8,375,830
Lease liabilities	319,245	(69,974)	141,254	-	12,033	402,558
Other payables for the						
reverse factoring						
arrangement	299,645	(299,645)		<u> </u>		
Total	15,065,379	743,118	141,254	5,981	1,161,038	17,116,770
(in millions of			2	021		
Korean won)		Cash flows				
	As at	from				As at
	January 1,	financing				September
	2021	activities	Amortization	Lease liabilities	Others	30, 2021
Borrowings	4,352,214	1,124,433	-	-	198,931	5,675,578
Debentures	5,649,278	2,293,691	-	4,773	137,611	8,085,353
Lease liabilities	184,625	(54,723)	133,775	-	(5,757)	257,920
Exchange rights	16,797	-	-	-	(16,797)	-
Other payables for the						
reverse factoring arrangement	2,081,307	(2,494,993)			1,696,935	1,283,249
Total	12,284,221	868,408	133,775			15,302,100
IUlai	12,204,221	000,400	133,773	4,773	2,010,923	13,302,100

Significant non-cash transactions for the nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)	2022	2021
Reclassification of construction-in-progress	4,307,108	4,912,637
Reclassification of machinery-in-transit	75,914	351,354
Reclassification of long-term borrowings into current		
portion	2,216,099	1,803,740
Other payables related to acquisitions of property, plant		
and equipment and intangible assets	1,575,205	1,565,671
Reclassification of other payables under the reverse		
factoring arrangement	-	1,696,934
Exchange of treasury stocks such as exchangeable		
bonds	-	54,383
Reclassification of non-current assets held for sale	23,129	-
Reclassification of non-current liabilities held for sale	15	-

33. Segment Information

General information about the Group's reportable segments is as follows:

Segment	Products or services	Major customers
Petrochemicals	ABS, PC, PE, PP, Acrylic, Alcohol, SAP, PVC, Synthetic rubber, Special resin, BPA, Ethylene, Propylene and others	LG Electronics Inc., OCI Group Co. Ltd., Mitsubishi Corp. and others
LG Energy solution	Mobile batteries, Automotive batteries, Electricity storage batteries and others	Hewlett-Packard Co., General Motors Corp., and others
Advanced materials	Automotive components, LCD Photoresist, OLED materials, anodic materials and others	LG Display Co., Ltd., Samsung Display Co., Ltd., BOE, AUO and others
Life sciences	Growth hormone, Vaccine, Antidiabetic, agricultural chemicals and others	UNICEF, Intervet, SOUSAM IMPORTACAO E EXPORTACAO LTDA and others
Common and others ¹	Crop protection products, Seeds, Fertilizers, General management, sales and R&D and others	National Agriculture Cooperative Federation and others

¹ The management approved to dispose of LCD polarizer business from the subsidiary in Taiwan and related profit and loss are presented as discontinued operations. The information for the comparative period has been restated to reflect these changes.

Segment information on revenue, profit and loss for the nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of			2022			
Korean won)	Petro- chemicals	LG Energy solution	Advanced materials	Life sciences	Common and others ³	Total
Total segment revenue	17,444,208	17,061,066	6,096,698	664,361	726,244	41,992,577
Inter-segment revenue Revenue from external	461,654	8,947	3,438,657	45,120	25,625	3,980,003
customers ¹	16,982,554	17,052,119	2,658,041	619,241	700,619	38,012,574
Operating profit (loss) ² Depreciation and	1,240,438	978,300	904,907	62,245	(381,473)	2,804,417
amortization	743,550	1,323,150	161,215	64,543	194,538	2,486,996

(in millions of			2021			
Korean won)	Petro- chemicals	LG Energy solution	Advanced materials	Life sciences	Common and others ³	Total
Total segment revenue	15,332,657	13,412,546	3,616,716	542,220	629,764	33,533,903
Inter-segment revenue Revenue from external	459,621	20,079	1,291,273	37,109	61,101	1,869,183
customers ¹	14,873,036	13,392,467	2,325,443	505,111	568,663	31,664,720
Operating profit (loss) ² Depreciation and	3,395,368	692,737	234,475	60,856	(106,501)	4,276,935
amortization	647,903	1,039,999	137,864	60,911	162,894	2,049,571

¹ Revenue from external customers consists of sales of goods. Interest income and dividend income are included in finance income.

Segment information on assets and liabilities as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of			September 3	0, 2022		
Korean won	Petro- chemicals	LG Energy solution	Advanced materials	Life sciences	Common and others	Total
Reportable segment asset ¹ Investments in associates and joint	15,452,061	39,827,000	7,827,791	1,732,265	4,809,915	69,649,032
ventures	47,515	246,232	660,589	17	150,830	1,105,183
Reportable segment liability ¹	5,149,406	18,722,339	2,658,313	295,464	4,108,400	30,933,922
(in millions of			December 3	1, 2021		
(in millions of Korean won	Petro- chemicals	LG Energy solution	December 3 ^r Advanced materials	1, 2021 Life sciences	Common and others	Total
Korean won Reportable segment asset ¹ Investments in			Advanced	Life		Total 51,135,302
Korean won Reportable segment asset ¹	chemicals	solution	Advanced materials	Life sciences	and others	

¹ Assets and liabilities are measured in a manner consistent with those in the financial statements, and allocated on the basis of segment operation.

² Management assesses the performance of the operating segments based on a measurement of operating profit of segment.

³ Common and other segments include operating segments not qualifying as a reportable segment, supporting divisions as well as R&D divisions.

External sales and non-current assets by geographical segments from continuing operations for the nine-month periods ended September 30, 2022 and 2021, and as at September 30, 2022 and December 31, 2021, are as follows:

Sales	S	Non-curre	nt assets¹
2022 2021		September 30, 2022	December 31, 2021
8,305,439	7,832,392	16,467,873	16,157,398
11,842,756	8,808,816	5,275,477	4,688,935
4,274,765	3,858,878	228,635	147,809
4,476,452	3,184,409	4,166,397	1,692,631
8,773,424	7,655,008	4,583,701	4,192,086
339,738	325,217	-	-
38,012,574	31,664,720	30,722,083	26,878,859
	8,305,439 11,842,756 4,274,765 4,476,452 8,773,424 339,738	8,305,439 7,832,392 11,842,756 8,808,816 4,274,765 3,858,878 4,476,452 3,184,409 8,773,424 7,655,008 339,738 325,217	2022 2021 September 30, 2022 8,305,439 7,832,392 16,467,873 11,842,756 8,808,816 5,275,477 4,274,765 3,858,878 228,635 4,476,452 3,184,409 4,166,397 8,773,424 7,655,008 4,583,701 339,738 325,217 -

¹ Represents aggregate amount of property, plant and equipment, intangible assets and investment properties.

There is no single external customer who contributes over 10% of the Group's revenue for the nine-month periods ended September 30, 2022 and 2021.

34. Assets Held for Sale and Discontinued Operations

34.1 Assets Held for Sale

In accordance with the final approval of management in September 2022, the Group decided to dispose of all shares of VINA PLASTICIZERS CHEMICAL COMPANY LIMITED. As a result, the related assets were reclassified as assets held for sale. The disposal of acrylic film business was completed in April 2022, the disposal of LCD polarizer business in Taiwan was completed in July 2022, and the land of FarmHannong Co., Ltd. which is held for sale in accordance with the river maintenance plan is in the process of the compensation plan with Gimhae City Hall.

Details of assets of disposal group classified as held for sale as at September 30, 2022 and December 31, 2021, are as follows:

Assets of disposal group	
Property, plant and equipment 484	5,364
Investments in joint ventures 16,822	-
Total 17,306	5,364

Assets of the disposal group were measured at net fair value immediately before the initial classification as assets as held for sale and there are no other non-operating expenses (income) recognized from the measurement for the nine-month periods ended September 30, 2022 and 2021.

34.2 Discontinued Operations

The Group decided to discontinue Glass substrate business with the resolution of the Board of Directors in January 2020 and substantially discontinued the related business as at March 2020. In addition, the Group decided to dispose of LCD polarizer business with the resolution of the

² Domestic sales include the exports made through local letters of credit.

Board of Directors in June 2020, and the disposal has been completed in February 2021. The Group disposed of all of its shares of Ugimag Korea Co., Ltd., in July 2021, and also determined to dispose of LCD polarizer business in Taiwan in May 2022 and the disposal was completed in July 2022. Accordingly, the profit and loss from the related operations are presented as discontinued operations and the comparative consolidated statements of profit or loss have been restated.

Comprehensive income information from discontinued operation for the nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)			2022	
,	LC	D polarizer	Glass substrate	Total
Revenue		78,861	354	79,215
Expense		(47,890)	(2,500)	(50,390)
Profit (loss) before income tax of discontinued operation	of	30,971	(2,146)	28,825
Income tax benefit		1,793	524	2,317
Profit (loss) after income tax of discontinued operations		32,764	(1,622)	31,142
(in millions of Korean won)	n) 2021			
· · · · · · · · · · · · · · · · · · ·		Glass		
	LCD polarizer	substrate	e Ugimag	Total
Revenue	673,200	9,6	11,609	694,508
Expense	(269,162)	(7,35	56) (40,656)	(317,174)
Profit (loss) before income tax of discontinued				
operation	404,038	2,3	(29,047)	377,334
Income tax benefit (expense)	(80,071)		60)	(71,836)
Profit (loss) after income tax		,		
of discontinued operations	323,967	1,7	(20,252)	305,498

Net cash flows from discontinued operations for the nine-month periods ended September 30, 2022 and 2021, are as follows:

(in millions of Korean won)			2022	
		LCD polarizer	Glass substrate	Total
Net cash inflow (outflow) from	operating			
activities		14,846	(2,322)	12,524
Net cash inflow from investing	activities	127,624	604	128,228
Net cash inflow (outflow) from	financing			
activities	_	(142,470)	1,718	(140,752)
		,		,
(in millions of Korean won)			2021	
		Glass		
	LCD polariz	er substrate	e Ugimag	Total
Net cash inflow (outflow)				
from operating activities	88,6	77 3,0	97 (1,835)	89,939
Net cash inflow from			,	
investing activities	1,078,92	21 5,4	23 26,569	1,110,913
Net cash outflow from				
financing activities	(1,180,09	8) (8,52	20) (24,734)	(1,213,352)
•	, , ,	75	, , ,	,

35. Assets and Liabilities related to Contracts with Customers

Assets and liabilities related to contracts with customers as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Contract assets		
Due from customers for contract work	11,520	
Total contract assets	11,520	
Contract liabilities		
Advances in relation to revenue from the Group's main business activities	395,119	376,487
Expected customer incentives	94,140	5,636
Unearned revenue	163,627	167,151
Due to customers for contract work	22,566	
Total contract liabilities	675,452	549,274

Revenue recognized in relation to contract liabilities

The following table shows how much of the revenue recognized during the current and previous reporting period relates to carried-forward contract liabilities and how much relates to performance obligations that were satisfied in the prior periods.

(in millions of Korean won)	2022	2021
Revenue recognized in the current period from the		
contract liabilities balance at the beginning of the period	220,253	151,074
Advances in relation to revenue from the Group's main		
business activities	179,504	147,598
Unearned revenue	40,749	3,476
Revenue recognized from performance obligations		
satisfied in previous periods	-	-

36. Investment Properties

Details of investment properties as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of	September 30, 2022					Decemb	er 31, 2021	
Korean won)	Cost	Accumulated depreciation	Accumulated impairment	Book amount	Cost	Accumulated depreciation	Accumulated impairment	Book amount
Land	3,725	-	-	3,725	4,211	-	-	4,211
Buildings	65,886	(14,713)	(51)	51,122	65,542	(13,409)	(47)	52,086
Total	69,611	(14,713)	(51)	54,847	69,753	(13,409)	(47)	56,297

Changes in investment properties for the nine-month period ended September 30, 2022 and for the year ended December 31, 2021, are as follows:

(in millions of		2022			2021		
Korean won)	Land	Building	Total	Land	Building	Total	
Beginning balance	4,211	52,086	56,297	4,211	45,222	49,433	
Acquisitions/transfers	-	643	643	-	8,233	8,233	
Disposals/transfers	(486)	(535)	(1,021)	-	(73)	(73)	
Depreciation	<u>-</u>	(1,072)	(1,072)	<u>-</u>	(1,296)	(1,296)	
Ending balance	3,725	51,122	54,847	4,211	52,086	56,297	

The fair value of investment properties is measured either by independent professional appraisers with certified qualification or measured based on official appraised value of land and available information from recent transactions of similar properties, and it is classified as 'level 3' of the fair value hierarchy. The fair value of investment properties as at September 30, 2022, is \pm 63,777 million (December 31, 2021: \pm 66,861 million).

During the nine-month period ended September 30, 2022, rental income from investment properties under operating lease is \$5,045 million (2021: \$5,005 million), and operating expenses incurred for investment properties that generated rental income (including maintenance and repair expenses) are \$1,066 million (2021: \$927 million). During the nine-month period ended September 30, 2022, operating expenses incurred for investment properties that do not generate rental income (including maintenance and repair expenses) are \$6 million (2021: \$9 million).

Operating lease

Investment properties are leased to tenants under operating leases with monthly rent payments. Where considered necessary to reduce credit risk, the Group may obtain bank guarantees for the term of the lease.

Although the Group is exposed to changes in the residual value at the end of the current leases, the Group typically enters new operating leases and therefore will not immediately realize any reduction in residual value at the end of these leases. Expectations about the future residual values are reflected in the fair value of investment properties.

The future minimum lease payments expected to be received in relation to the above operating lease agreement for investment properties as at September 30, 2022 and December 31, 2021, are as follows:

(in millions of Korean won)	September 30, 2022	December 31, 2021
Within one year	6,042	6,874
Within two years	1,428	6,016
Total	7,470	12,890

37. Business Combination

On February 28, 2022, the Group acquired 100% shares of LG Energy Solution Vertech Inc., an electricity storage batteries installation service provider in USA. The acquisition is expected to increase sales through expanded vertical integration by strengthening contact points with customers of electricity storage batteries.

Details of consideration transferred, assets and liabilities recognized as a result of the business combination, are as follows:

Gain from a bargain purchase amounting to $\forall 30,673$ million occurred from the acquisition is recognized as other non-operating income in the consolidated statement of profit or loss.

(in millions of Korean won)	Amount
Consideration transferred	
Cash and cash equivalents	16,168
Total consideration	16,168
Identifiable assets acquired and liabilities assumed	
Cash and cash equivalents	7,748
Trade and other receivables ¹	56,333
Inventories	5,477
Property, plant and equipment	7,251
Intangible assets	1,503
Other assets	12,295
Trade and non-trade payables	(25,859)
Other payables	(15,543)
Deferred tax liabilities	(2,364)
Fair value of net identifiable assets acquired	46,841
Goodwill (gain from a bargain purchase)	(30,673)
	16,168

¹ The fair value of trade and other receivables is equal to the total contractual amount.

The revenue and net loss for the nine-month period ended September 30, 2022 contributed by LG Energy Solution Vertech Inc. since the acquisition date were $\mbox{$W28,177$}$ million and $\mbox{$W9,347$}$ million, respectively.

Revenue and profit or loss of the Group for the nine-month period ended September 30, 2022 would have been $\mbox{$W$}$ 38,011,892 million and $\mbox{$W$}$ 2,180,649 million, respectively as though the acquisition of LG Energy Solution Vertech Inc. had occurred as at the beginning of the nine-month period ended September 30, 2022.

The Group accounts for the business combination with provisional amounts as at September 30, 2022 and the amounts may be adjusted if there is new information obtained about facts and circumstances related to business combination within the measurement period of one year from the acquisition date.

On November 1, 2021, the Parent Company and its subsidiary, LG Chem Poland Sp. z o.o., acquired CEM (Chemical Electronics Material) business from LG Electronics Inc. to drive competitive separator business. The Parent Company acquired the domestic CEM business for $\mbox{$W$}$ 389,973 million and the 70% shares of LG Chem Hangzhou Advanced Materials Co., Ltd. (formerly, LG Electronics(Hangzhou) Co., Ltd) for $\mbox{$W$}$ 67,027 million. LG Chem Poland Sp. z o.o., a subsidiary, acquired CEM business in Poland for $\mbox{$W$}$ 67,700 million.

The goodwill of ₩202,568 million arising from the business combination is attributable to sales increase from combining the operations of the Group and CEM business.

Details of consideration transferred, assets and liabilities recognized as a result of the business combination, are as follows:

Consideration transferred 457,000 67,700 Total consideration 457,000 67,700 Identifiable assets acquired and liabilities assumed 457,000 67,700 Cash and cash equivalents 4,376 - Trade and other receivables¹ 190,386 26,228 Inventories 43,084 36,627 Property, plant and equipment 211,373 38,755 Intangible assets 48,841 447 Other assets 4,204 - Trade and other payables (213,669) (24,602) Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill (8,636)	(in millions of Korean won)	LG Chem Ltd.	LG Chem Poland Sp. Z.o.o
Total consideration 457,000 67,700 Identifiable assets acquired and liabilities assumed 4,376 - Cash and cash equivalents 190,386 26,228 Inventories 43,084 36,627 Property, plant and equipment 211,373 38,755 Intangible assets 48,841 447 Other assets 4,204 - Trade and other payables (213,669) (24,602) Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Consideration transferred		
Identifiable assets acquired and liabilities assumed 4,376 - Cash and cash equivalents 190,386 26,228 Inventories 43,084 36,627 Property, plant and equipment 211,373 38,755 Intangible assets 48,841 447 Other assets 4,204 - Trade and other payables (213,669) (24,602) Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Cash and cash equivalents	457,000	67,700
Cash and cash equivalents 4,376 - Trade and other receivables¹ 190,386 26,228 Inventories 43,084 36,627 Property, plant and equipment 211,373 38,755 Intangible assets 48,841 447 Other assets 4,204 - Trade and other payables (213,669) (24,602) Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Total consideration	457,000	67,700
Trade and other receivables¹ 190,386 26,228 Inventories 43,084 36,627 Property, plant and equipment 211,373 38,755 Intangible assets 48,841 447 Other assets 4,204 - Trade and other payables (213,669) (24,602) Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Identifiable assets acquired and liabilities assumed		
Inventories 43,084 36,627 Property, plant and equipment 211,373 38,755 Intangible assets 48,841 447 Other assets 4,204 - Trade and other payables (213,669) (24,602) Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Cash and cash equivalents	4,376	-
Property, plant and equipment 211,373 38,755 Intangible assets 48,841 447 Other assets 4,204 - Trade and other payables (213,669) (24,602) Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Trade and other receivables ¹	190,386	26,228
Intangible assets 48,841 447 Other assets 4,204 - Trade and other payables (213,669) (24,602) Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Inventories	43,084	36,627
Other assets 4,204 - Trade and other payables (213,669) (24,602) Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Property, plant and equipment	211,373	38,755
Trade and other payables (213,669) (24,602) Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Intangible assets	48,841	447
Provisions (1,809) (597) Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Other assets	4,204	-
Net defined benefit liabilities (9,622) - Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Trade and other payables	(213,669)	(24,602)
Other liabilities (5,930) (522) Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Provisions	(1,809)	(597)
Deferred tax liabilities (3,851) - Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Net defined benefit liabilities	(9,622)	-
Fair value of net identifiable assets acquired 267,383 76,336 Less: non-controlling interest (12,951) - Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Other liabilities	(5,930)	(522)
Less: non-controlling interest(12,951)-Acquired amount attributable to the Parent Company254,43276,336Goodwill202,568-Gain from a bargain purchase-(8,636)	Deferred tax liabilities	(3,851)	-
Acquired amount attributable to the Parent Company 254,432 76,336 Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Fair value of net identifiable assets acquired	267,383	76,336
Goodwill 202,568 - Gain from a bargain purchase - (8,636)	Less: non-controlling interest	(12,951)	-
Gain from a bargain purchase (8,636)	Acquired amount attributable to the Parent Company	254,432	76,336
<u> </u>	Goodwill	202,568	-
457,000 67,700	Gain from a bargain purchase	<u> </u>	(8,636)
		457,000	67,700

¹ The fair value of trade and other receivables as of the acquisition date and the total contractual amount are ₩217,624 million, of which the amount that is not expected to be recovered is ₩1,010 million.

38. Events after the Reporting Period

The Group decided to acquire 100% shares of Aveo Pharmaceuticals, Inc. through a capital investment in LG Chem Life Science Innovation Center, Inc., its subsidiary, to enter in the anticancer medicine market in the United States.