



ESG DATA BOOK

ESG DATA BOOK



KT&G ESG Quantitative Data

Energy use

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Fuel (LNG, etc.)	TJ	616	626	678	626
	Electricity	TJ	1,457	1,463	1,577	1,552
	Steam	TJ	13	1	21	28
	Renewable Energy	TJ	-	-	2	3
	Subtotal	TJ	2,086	2,090	2,278	2,209
	Energy Intensity	TJ/ KRW 100 million	0.08	0.07	0.07	0.06
Overseas	Fuel (LNG, etc.)	TJ	46	53	53	54
	Electricity	TJ	99	115	118	136
	Steam	TJ	-	-	-	-
	Subtotal	TJ	145	168	171	190
Entire	Total	TJ	2,231	2,258	2,448	2,399

*Verification status: Third party verification completed within the aggregated scope of the business establishment

*Correction of data by changing the emission coefficient of overseas manufacturing sites by the third-party verification (power IEA, non-power IPCC)

GHG emissions

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Direct emissions (Scope 1)	tCO ₂ eq	33,022	33,549	36,430	33,744
	Indirect emissions (Scope 2)	tCO ₂ eq	70,821	71,082	77,429	75,418
	Total (Scope 1+2)	tCO₂eq	103,843	104,631	113,859	109,162
	GHG emission intensity (Scope 1+2)	tCO ₂ eq /KRW 100 million	3.96	3.56	3.31	3.13
Overseas	Direct emissions (Scope 1)	tCO ₂ eq	2,462	2,823	2,854	2,878
	Indirect emissions (Scope 2)	tCO ₂ eq	6,032	7,354	7,194	8,475
	Total (Scope 1+2)	tCO₂eq	8,495	10,178	10,049	11,353
Entire	Direct emissions (Scope 1)	tCO ₂ eq	35,484	36,372	39,284	36,622
	Indirect emissions (Scope 2)	tCO ₂ eq	76,853	78,436	84,623	83,894
	Total (Scope 1+2)	tCO₂eq	112,338	114,809	123,908	120,516

*Verification status: Third party verification completed within the aggregated scope of the business establishment

*Correction of data by changing the emission coefficient of overseas manufacturing sites by the third-party verification (power IEA, non-power IPCC)

GHG Emissions (Scope 3)

Scope	Subcategory	Unit	2018	2019	2020	2021
	Procured products and services	tCO ₂ eq	70,556	77,747	111,305	114,663
	Capital goods	tCO ₂ eq	-	-	24	8
	Fuel & energy related activities (excluding Scope 1&2)	tCO ₂ eq	-	-	3,452	3,240
	Upstream transport & distribution	tCO ₂ eq	-	-	5,630	5,054
	Waste from business sites	tCO ₂ eq	3,379	3,937	8,096	4,099
	Business trip	tCO ₂ eq	2,040	1,890	314	703
	Employee commuting	tCO ₂ eq	-	-	2,211	2,210
	Upstream lease assets	tCO ₂ eq	-	-	-	-
	Downstream transport & distribution	tCO ₂ eq	-	-	12,309	7,394
	Processing of sold products	tCO ₂ eq	-	-	-	-
	Use of sold products	tCO ₂ eq	3,055	1,620	1,592	2,067
	Disposal of sold products	tCO ₂ eq	10	5	25,675	25,787
	Downstream lease assets	tCO ₂ eq	-	-	-	-
	Franchise	tCO ₂ eq	-	-	-	-
	Investment	tCO ₂ eq	-	-	41,681	39,738
	Other indirect emissions (Scope 3)	tCO₂eq	79,040	85,199	212,288	204,962

*Aggregation activities: 7 upstream items (purchased products and services, business trips by employees, etc.), 4 downstream items (transportation and distribution, product disposal, etc)

*Verification status: 3rd party verification based on greenhouse gas emission calculation framework, data management and collection, emission calculation and reporting process is completed

*Verification Principles: ISO 14064-3:2019 (Greenhouse Gas - Part 3: Rules and Guidelines for Evaluating and Verifying the Feasibility of the Greenhouse Gas Declaration)

Water consumption

Scope	Subcategory	Unit	2018	2019	2020	2021	
Domestic	Water withdrawal amount (A)						
	-Waterworks	ton	420,533	439,861	489,651	444,569	
	-Underwater	ton	93,646	103,929	104,618	93,777	
	Total wastewater - water discharge(B)	ton	138,171	146,586	171,993	151,236	
	Total water consumption (A-B)	ton	376,008	397,204	422,276	387,110	
	Water recycling rate	ton	-	-	-	436	
	Water use intensity	ton/KRW 100 million	14.3	13.5	12.3	11.1	
	Overseas	Water withdrawal amount (A)					
		-Waterworks	ton	30,087	30,861	28,764	29,074
		-Underwater	ton	162,404	167,741	143,134	175,903
Total effluents - water discharge(B)		ton	18,786	18,101	21,598	27,893	
Total water consumption (A-B)		ton	173,705	180,501	150,300	177,084	
Water recycling rate		ton	-	-	-	-	
Water use intensity		ton/KRW 100 million	6.6	6.1	4.4	5.1	
Entire		Total water consumption	ton	549,713	577,705	572,576	564,194

*Scope: domestic manufacturing sites(six), overseas manufacturing sites(three)

*Second party verification based on evidence such as all business sites notices within the scope is completed

*Amount of waste water discharged: Waste water discharging channel of all workplaces within the aggregated range (Gimcheon is calculated as the amount of waste water inflow)

*Water usage: GRI and CDP Water Guidance are applied according to water intake and discharge

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Waste Emissions and Recycling

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Incineration	ton	1,133	1,557	3,652	2,248
	Landfill	ton	164	4	3	18
	Recycling	ton	5,887	6,602	5,351	6,482
	Others	ton	687	821	857	191
	Subtotal waste emitted	ton	7,871	8,984	9,863	8,939
	Waste recycling rate	%	74.8	73.5	54.3	72.5
	Waste emission intensity	ton/KRW 100 million	0.30	0.31	0.29	0.26
Overseas	Incineration	ton	12	8	7	151
	Landfill	ton	62	93	414	351
	Recycling	ton	686	934	1,225	940
	Subtotal waste emitted	ton	761	1,035	1,647	1,442
	Waste recycling rate	%	90.2	90.3	74.4	65.2
Entire	Total waste emitted	ton	8,632	10,019	11,509	10,382

*Scope: domestic manufacturing sites(six), overseas manufacturing sites(three)

Air pollutant emissions

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	NOx	ton		16.76	9.18	14.82
	SOx	ton		1.71	0.05	0.02
	Dust (PM)	ton		4.31	2.43	3.85
	Subtotal	ton		22.78	11.66	18.69

*Scope: domestic manufacturing sites(five),

*Verification status: Third party verification of Environmental Information Verification Center linked to Environmental Information Disclosure System completed

*The data verification confirmation for the previous year is December of the following year, and the data may be corrected according to the verification results.

Water pollutant emissions

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	BOD	ton		0.89	0.58	1.28
	COD	ton		3.56	2.11	1.97
	SS	ton		1.73	1.01	1.52
	T-N	ton		1.35	1.43	1.38
	T-P	ton		0.06	0.04	0.03
	Subtotal	ton		7.59	5.17	6.16

*Scope: domestic manufacturing sites(five),

*Verification status: Third party verification of Environmental Information Verification Center linked to Environmental Information Disclosure System completed

*The data verification confirmation for the previous year is December of the following year, and the data may be corrected according to the verification results.

Use of packaging materials

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Total weight of all plastic packaging ¹⁾	ton	1,792	1,761	1,903	1,795
	Percentage of recyclable plastic packaging ²⁾	%	96.0	95.7	95.6	95.6
	The ratio of packaging material (cost to sales cost)	%	12.3	12.1	11.3	10.2

1) Total weight of all plastic packaging

2) Percentage of reusable plastics among plastics (by weight)

Packaging materials

Scope	Packaging materials	Unit	Scope (cost to sales cost)	Recycled and certified materials(relative to total weight)
Domestic	Wood/paper fiber	%	88.6	100
	Metal (aluminum or steel)	%	5.4	0.6

*Use of 100% recycled and certified raw materials for paper/wood/fiber packaging by 2021(98% target in 2021)

*In 2021, the case of metal packaging materials, used 0.6% of recycled and certified raw materials, and replacement with recyclable paper packaging materials is currently being pursued

Purchase of eco-friendly packaging materials Status

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Recyclable Packaging Materials	Purchased Amount (in KRW 100 million)	259	268	292	282
		Rate (in weight basis)	93.3%	93.4%	93.0%	93.5%
	Renewable packaging materials	Purchased Amount (in KRW 100 million)	241	250	273	264
		Rate (in weight basis)	86.9%	87.4%	87.1%	87.6%
	Eco-friendly packaging materials*	Purchased Amount (in KRW 100 million)	259	268	292	282
		Rate (in weight basis)	93.3%	93.4%	93.0%	93.5%

*Base for calculating the purchase of eco-friendly materials has been updated per "2022 KT&G Sustainable Product Policy".

*KT&G's eco-friendly materials refer to bio-degradable materials, including recycled materials, recyclable materials, renewable materials, biomass materials, and compostable materials.

Environmental investment

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Environmental investment plan	KRW million	2,245	1,361	6,379	5,374
	Environmental investment practice	KRW million	1,957	1,718	6,615	6,011
	Execution rate	%	87.2	126	103.7	111.9

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Customer communication channel

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Online channel					
	Homepage	place	1	1	1	1
	Online customer center	place	-	-	1	1
	Kakao channel	place	-	-	1	1
	lil store	place	-	-	1	1
	Offline channel					
	lil minimulium	place	3	8	8	4
	Customer service (A/S) center	place	10	17	17	25
	lil station	place	31	40	98	100
	Visiting A/S	place	121	121	121	119
	Total	place	167	189	249	253

Customer satisfaction

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Percentage of satisfied customers	%	76	77	78	79

Employment

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Subtotal	person		4,386	4,331	4,311
	Turkey	person		78	79	84
Overseas	Indonesia	person		3,052	3,191	3,774
	Russia	person		131	139	180
	Others	person		193	185	57
	Subtotal	person		3,454	3,594	4,095
	Percentage of overseas employees	%		44.06	45.35	49
Entire	Total	person		7,840	7,925	8,406

*In 2021, the nationality of the employees is Korea 51.28%, Indonesia 44.8%, Russia 2.1%, and Turkey 1.0%.

*Status criteria for executives and employees: including full-time employees and fixed-term employees, as of 12.31 each year

Manager position

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Male executive directors	person		244	250	240
	Male senior managers	person		1,629	1,580	1,520
	Male junior managers	person		929	980	1,006
	Female executive directors	person		4	5	6
	Female senior managers	person		179	174	170
	Female junior managers	person		119	128	127

* Based on level 1 or higher for executive directors, level 2 to level 4 or higher for senior managers, and level 5 to level 6 for junior managers

Female employees

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Percentage of female employees	%		10.2	10.3	10.1
	Female employees in departments ¹⁾ generating profit	person		140	143	143
	Percentage of female employees in departments ¹⁾ generating profit	%		7.0	7.2	7.2
	Female employees in STEM ^{**2)} related positions	person		214	223	218
	Percentage of female employees in STEM ^{**2)} related positions	%		11.2	11.1	10.9
	Overseas	Percentage of female employees	%		21.3	18.5
Entire	Percentage of female employees	%		15.1	14.0	13.2

1) Departments: generating profit: sales, marketing, NGP, global headquarters (including subsidiaries and institutions)

2) STEM-related departments include departments related to science, technology, engineering, and maths. This number is the number of female employees in STEM-related departments such as R&D, raw materials, manufacturing departments, PI promotion team, NGP development office, privacy office, IT office, and local plants.

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Average service period

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Male	year		17.1	17.3	17.4
	Female	year		15.3	14.6	14.9

Employment of persons with disabilities

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Employees with disabilities	person		140	126	104
	Employment rate for persons with disabilities	%		3.2	2.9	2.4

Age

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Under 30	person		433	457	528
	30-49	person		2,207	2,260	2,136
	50 and older	person		1,746	1,614	1,647
	Total	person		4,386	4,331	4,311

Equal wage

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Average gender wage gap	%		4.7	0.5	1.7
	Median gender wage gap	%		1.2	0.8	0.4
	Average gender incentive gap	%		8.1	5.1	2.0
	Median gender incentive gap	%		3.4	2.4	0.4

*Equal wage: the percentage of the average wage of women to men

*Based on wage of level-4 men/women

New employment

Scope	Subcategory	Unit	2018	2019	2020	2021	
Domestic	Male	person	221	331	116	192	
	Female	person	26	73	47	41	
	Under 30	person	70	221	33	132	
	30-49	person	106	138	90	58	
	50 and older	person	71	45	40	43	
	Executive directors	person	1	1	-	1	
	Senior managers	person	7	18	14	3	
	Junior managers	person	37	112	29	58	
	Employee	person	202	273	120	171	
	Total	person	247	404	163	233	
		Internal recruiting (percentage)	%	98.3	96.6	95.9	98.7
	Overseas	Total	person	956	1,853	1,674	1,723

* Data may be different from the previous year's report due to changes in data calculation criteria. (the 2020 report included dispatched employees, while the 2021 report does not include the dispatched employees)

Turnover

Scope	Subcategory	Unit	2018	2019	2020	2021	
Domestic	Male	person	188	193	145	197	
	Female	person	43	31	52	47	
	Under 30	person	14	9	18	22	
	30-49	person	24	25	33	39	
	50 and older	person	193	190	146	183	
	Executive directors	person	15	10	12	21	
	Senior managers	person	130	108	105	116	
	Junior managers	person	5	15	5	9	
	Employee	person	81	91	75	98	
	Total	person	231	224	197	244	
		Turnover rate	%	5.6	5.1	4.5	5.7
		Voluntary turnover rate	%	0.9	0.9	0.7	0.8
Overseas	Total	person	998	1,269	1,497	1,255	

CI (Culture Index) Diagnosis Results

Scope	Subcategory	Unit	2018	2020
Domestic	Engagement of Corporate Culture	%	82.20	82.95

*CI is an index to diagnose KT&G's corporate culture and consists of four areas: Corporate Vision, Leadership, Work style, and Relationships between members. It is assessed every other year.

*2020 target: 82.5%

Childbirth leave and childcare leave

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Male employees taking childbirth leave	person		73	54	74
	Female employees taking childbirth leave	person		18	20	18
	Rate of male returning to work after childbirth leave	%		100	100	100
	Rate of female returning to work after childbirth leave	%		100	100	100
	Male employees taking childcare leave	person		18	7	22
	Female employees taking childcare leave	person		22	18	24
	Rate of male returning to work after childcare leave	%		100	100	100
	Rate of female returning to work after childcare leave	%		100	100	92
	Rate of male retiring within 12 months after returning to work from childcare leave	%		11	14	13
	Rate of female retiring within 12 months after returning to work from childcare leave	%		-	-	-

*Men's and women's parental leave can be used for up to 2 years with a fee

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Union membership

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Employees eligible for membership	person		3,596	3,679	3,583
	Union members	person		3,596	3,679	3,583
	Union membership rate	%		100	100	100

*We corrected the data because the previous year's report includes the number of non-subject (executive, personnel department, etc.) employees

Employee training

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Total number of trainees	person	25,375	32,454	61,054	67,311
	• Male	person	-	-	-	59,894
	• Female	person	-	-	-	7,417
By gender	Annual average training expense per employee	KRW thousand	1,050	1,387	1,030	1,079
	• Male	KRW thousand	-	-	-	1,075
	• Female	KRW thousand	-	-	-	1,122
By position	• Executive directors	KRW thousand	-	-	-	8,457
	• Senior and associate director	KRW thousand	-	-	-	1,542
	• Manager	KRW thousand	-	-	-	1,406
	• Associate manager	KRW thousand	-	-	-	717
	• Staff	KRW thousand	-	-	-	356
	Education By type	• On the job training	KRW thousand	-	-	-
	• Leadership training	KRW thousand	-	-	-	260
	• General competency training	KRW thousand	-	-	-	487
	Annual average time spent on training per employee	hour	115	124	172	110
By gender	• Male	hour	-	-	-	107
	• Female	hour	-	-	-	138
	By position	• Executive directors	hour	-	-	-
	• Senior and associate director	hour	-	-	-	126
	• Manager	hour	-	-	-	111
	• Associate manager	hour	-	-	-	119
	• Staff	hour	-	-	-	101
Education By type	• On the job training	hour	-	-	-	43
	• Leadership training	hour	-	-	-	7
	• General competency training	hour	-	-	-	60

Performance evaluation

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Employees subject to evaluation	person		3,796	3,782	3,826
	Percentage of employees evaluated	%		97	95.6	95.1

Human rights protection

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Sexual harassment prevention training	person	2	1	1	2
	Employees who completed sexual harassment prevention training	person	3,945	3,950	3,977	8,031

Industrial accident

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Number of victims*	person	2	3	2	5
	Industrial accident rate	%	0.040	0.057	0.042	0.106
Overseas	Number of victims	person	5	11	15	0
	Industrial accident rate	%	0.171	0.318	0.417	0
Entire	Number of victims	case	7	14	17	5
	Total working hour	hour	15,055,196	16,523,120	17,013,529	22,022,745

*Daily workers included

Work loss

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	(Employee) LTIFR*	-	0.265	0.395	0.256	0.652
	(Partners) LTIFR*	-	1.204	2.856	1.547	2.841
Overseas	(Employee) LTIFR*	-	0.665	1.232	1.630	0
	(Partners) LTIFR*	-	0	0	0	0
Entire	(Employee) Total of LTIFR	-	0.465	0.847	0.999	0.227
	(Partner) Total of LTIFR	-	1.204	2.856	1.532	2.784

*LTIFR (Lost Time Injuries Frequency Rate) = (Number of accidents / Total labor hour) x 1,000,000

*No domestic or overseas deaths between 2018-2021

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ISO Certification Status

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	ISO14001 certification					
	-Certification rate	%		66.7	66.7	83.3
	-Number of worksites obtained the certification	place		4	4	5
	-Number of worksites eligible to obtain	place		6	6	6
	ISO9001 certification					
	-Certification rate	%		83.3	83.3	83.3
	-Number of worksites obtained the certification	place		5	5	5
	-Number of worksites eligible to obtain	place		6	6	6
	ISO45001 certification					
	-Certification rate	%		-	-	83.3
	-Number of worksites obtained the certification	place		-	-	5
	-Number of worksites eligible to obtain	place		-	-	6
	ISO50001 certification					
	-Certification rate	%		-	-	83.3
	-Number of worksites obtained the certification	place		-	-	5
	-Number of worksites eligible to obtain	place		-	-	6
	ISMS-P certification					
	-Certification rate	%		-	66.6	66.6
	Number of systems obtained the certification	place		-	4	4
	-Number of systems eligible to obtain	place		-	6	6
ISO27001 certification						
-Certification rate	%		83.3	83.3	100	
Number of systems obtained the certification	place		5	5	6	
-Number of systems eligible to obtain	place		6	6	6	

Purchase and use of raw materials

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Purchasing of raw materials (leaf tobacco, tobacco sheet, auxiliary material)*	KRW million		288,833	281,820	245,963
	Raw materials consumption	ton		38,095	41,665	38,579

Leaf tobacco partner

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Domestic partners (farmers)	person		2,880	2,960	2,854
	Amount of domestic purchasing*	KRW 100 million		1,175	961	1,071
	Overseas partners	firm		19	19	20
	Amount of overseas purchasing*	KRW 100 million		1,713	1,858	1,389
	Total amount of purchasing	KRW 100 million		2,888	2,819	2,460

*Including purchasing of tobacco sheet from Tae-a Industrial (toll processing cost)

Purchase of entire domestic leaf tobacco

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Purchasing volume	ton		10,214	7,741	8,013
	Purchasing amount	KRW 100 million		965	745	802

NTM (Non-Tobacco Material) partners

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Domestic partners	firm		74	70	76
	Domestic purchasing	KRW 100 million		4,352	5,173	6,871
	Overseas partners	firm		12	10	11
	overseas purchasing	KRW 100 million		440	445	395
	Total number of partners	firm		86	80	87
	Total amount of purchasing	KRW 100 million		4,792	5,618	7,266

Support for partners

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Early payment of purchasing amount	KRW million		45,885	27,234	64,383

Haearin project

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Number of farmers	person		20	22	19
	Purchasing of dried red pepper	kg		10,488	11,640	10,680
	Purchasing amount of dried red pepper	KRW 100 million		1.58	2.95	2.03

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Social contribution

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic (by category)	Social responsibility (youth startup, SangSang Fund, CSR, sponsorship, etc.)	KRW 100 million		507	198	127.7
	Arts & culture (SangSang Madang, SangSang Univ., etc.)	KRW 100 million		343	297.7	218.1
	Scholarship foundation, welfare foundation, etc.	KRW 100 million		160	175.9	194.3
	Total	KRW 100 million		1,010	672	540.1
	Social contribution investment to sales	%		3.43	1.95	1.55
Domestic (by type)	Cash	KRW 100 million		913	531.8	410
	In kind	KRW 100 million		29	60.9	70.4
	Overhead cost	KRW 100 million		68	78.7	59.7

Board of Directors (BOD)

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Number of BOD meetings held	time		10	14	13
	Attendance rate of non-executive directors	%		98.3	100	97.2

Compensation

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Director compensation (all directors and auditors)	KRW million		2,403	2,330	5,111
	CEO salary	KRW million		1,177	1,173	2,557
	Average salary of employees	KRW million		80	88	90
	CEO salary compared with average employee salary	%		6.80	7.50	3.51
		time		14.71	13.33	28.41

ESG evaluation

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	KCGS	rating		A+	A	A
	MSCI	rating		BBB	A	AA
	Sustainvest	rating			AA	AA

*Based on all grades

R&D

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	R&D investment	KRW million		23,401	26,317	39,206
	R&D performance	case		48	59	61
	R&D reseacher	person		172	180	185
	Patents (owned)	case		401	514	781

* Data are different from the previous year as the criteria for calculating patent rights (holdings) have been expanded from Korea to overseas

Violation of laws and regulations

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Fair trade related legal sanctions	case		-	-	-
	Environment-related penalty	KRW thousand		4,400	8,400	800
	Violation of display advertising regulation	case		-	-	-
	Personal information infringement	case		-	-	-

*No ongoing investigations related to unfair trade

2021 Misconduct Reports Received

Scope	Subcategory	Unit	Breach of Data Security	Lending and borrowing money (Bribery)	Breach of Concurrent Employment Restrictions	Sexual harassment and bullying at work	Production claim
Domestic	Employees	Case	3	0	0	4	7
		Unit	Breach of the duty of fidelity	Breach of the duty of obedience	Breach of the duty of kindness and fairness	Undermining dignity/drunk driving	Other
		Case	43	1	0	16	1

* Limited to the headquarters, plants and regional branches of KT&G

*No investigation into corruption/bribery in the last 4 years (2018-2021) and ongoing

Disciplinary Actions in 2021

Scope	Subcategory	Unit	Termination	Suspension	Pay cut	Reprimand
Domestic	Employees	Person	1	5	5	8

KT&G ESG Quantitative Data

NGP

Scope	Subcategory	Unit	2018	2019	2020	2021
Entire	Unit sales of sticks	100 million sticks		25	26	43
	Market share in the stick market (domestic)	%		32	34	40
	NGP sales	KRW 100 million		2,265	2,792	5,040
	NGP sales growth (YoY)	%		29	23	81
	NGP's sales proportion in the tobacco business	%		8	10	18
	NGP sales markets	countries		1	4	24
	NGP patents applied	item		380	1,106	1,096
	-Domestic	item		188	349	392
	-Overseas	item		192	757	704
	NGP trademarks applied	item		1,572	688	354
	-Domestic	item		62	56	17
	-Overseas	item		1,510	632	337
	NGP design rights applied	item		281	71	87
	-Domestic	item		37	25	28
	-Overseas	item		244	46	59

Customer Information Protection

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Information leakage	case		-	-	-

VOCs by channel

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Phone counseling	case	208,657	262,760	183,585	134,050
	ARS	case	19,082	19,372	26,402	36,144
	1:1 counseling	case	10,128	19,996	10,258	17,834
	Chat counseling	case	-	-	1,185	5,291
	Total	case	237,867	302,128	221,430	193,319

VOCs by type

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic	Inquiry of product purchasing and location	case	27,621	29,916	21,157	11,702
	Discount coupon and homepage	case	3,597	11,349	9,443	5,039
	Inquiry of customer service (A/S)	case	184,726	237,383	174,380	165,792
	Claim on cigarettes	case	166	118	697	847
	Others (phone number, general)	case	21,757	23,362	15,753	9,939
	Total	case	237,867	302,128	221,430	193,319

CS Center (call center)

Scope	Subcategory	Unit	2018	2019	2020	2021
Domestic		place	1	1	1	1

KGC ESG Quantitative Data

Energy use

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Fuel (LNG)	TJ	352	371	339
	Electricity	TJ	396	411	418
	Others	TJ	0.5	0.5	0.5
	Total	TJ	748	782	757
	Energy use Intensity	TJ/KRW 100 million	0.052	0.058	0.058
Overseas	Diesel (fixed combustion)	TJ	0.429	0.506	0.527
	subtotal	TJ/KRW 100 million	748.92	783.00	758.01
	Energy Intensity	TJ/KRW 100 million	0.05	0.06	0.06

GHG emissions

Scope	Subcategory	Unit	2019	2020	2021
Buyeo Plant	Direct emissions (Scope 1)	tCO ₂ eq	9,228	9,338	8,783
	Indirect emissions (Scope 2)	tCO ₂ eq	8,338	8,986	9,342
	Total (Scope 1+2)	tCO₂eq	17,566	18,324	18,125
Wonju Plant	Direct emissions (Scope 1)	tCO ₂ eq	8,636	9,518	8,437.82
	Indirect emissions (Scope 2)	tCO ₂ eq	10,879	10,984	10,661.32
	Total (Scope 1+2)	tCO₂eq	19,515	20,502	19,099.14
Overseas	Direct emissions (Scope 1)	tCO ₂ eq	30	35	37
	Indirect emissions (Scope 2)	tCO ₂ eq	956	802	887
	Total (Scope 1+2)	tCO₂eq	986.0	837.0	924.0
Entire	Direct emissions (Scope 1)	tCO ₂ eq	17,894	18,891	17,258
	Indirect emissions (Scope 2)	tCO ₂ eq	20,173	20,772	20,890
	Total (Scope 1+2)	tCO₂eq	38,067	39,663	38,148
	GHG emission intensity (Scope 1+2)	tCO ₂ eq/KRW 100 million	2.71	2.97	2.95

Environmental investment

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Environmental investment plan	KRW million	161.50	205.90	817.10
	Amount of environmental investments*	KRW million	258.00	585.90	888.40
	Execution rate	%	160	285	109

*Reinforcement of Environmental facilities (TMS, low Nox burners, air pollution prevention facilities, facility maintenance), GHG reduction activities

*Scope of domestic business sites: Headquarters, Buyeo, and Wonju business sites

*Scope of overseas business sites: China business site

Water consumption

Scope	Subcategory	Unit	2019	2020	2021
Buyeo Plant	Waterworks	ton	488,980	479,640	452,270
	underwater	ton	-	-	-
	Total	ton	488,980	479,640	452,270
	Water recycling	ton		30,000	26,250
Wonju Plant	Waterworks	ton	292,573	299,479	278,965
	underwater	ton	908	1,078	692
	Total	ton	293,481	300,557	279,657
	Water recycling	ton	19,428	24,516	17,213
	Water use Intensity (Buyeo+Wonju)	ton/ KRW 100 million	54.45	58.52	56.61
Overseas	Total	ton	61,526	38,851	46,548
Entire	Water use Intensity	ton/KRW 100 million	60.13	61.38	60.23

Waste Emissions and Recycling

Scope	Subcategory	Unit	2019	2020	2021
Buyeo Plant	Incineration	ton	5.550	18.700	7.890
	Landfill	ton	9.230	9.650	9.350
	Recycling	ton	885.540	14,459.330	1,436.090
	Others	ton			1.103
	Subtotal waste emitted	ton/ KRW 100 million	900.320	1,487.680	1,454.433
	Waste recycling rate	%	98.36	98.09	98.74
	Wonju Plant	Incineration	ton		1.26
Landfill		ton	222.24	288.73	208.24
Recycling		ton	2835.72	2984.08	3113.23
Subtotal waste emitted		ton	3057.96	3274.07	3328.45
Waste recycling rate		%	92.73	91.14	93.53
Overseas		Total waste emitted	ton	91	75
Entire	Waste emission intensity	ton/ KRW 100 million	0.29	0.38	0.39

Air pollutant emissions

Scope	Subcategory	Unit	2019	2020	2021
Wonju Plant	NOx	ton	Non-target	2.5 (Unable to check flow)	2.9
	SOx	ton	Uncounted	Uncounted	0.02
	Dust (PM)	ton	Uncounted	0.5	0.7
Buyeo Plant	NOx	ton	Non-target	6.95	5.59
	SOx	ton	Non-target	Non-target	0.00
	Dust (PM)	ton	0.19	0.07	0.11

KGC

KGC ESG Quantitative Data

Water pollutant emissions

Scope	Subcategory	Unit	2019	2020	2021
Wonju Plant	BOD	ton	0.6	0.4	0.2
	COD	ton	3.0	2.0	1.0
	SS	ton	0.7	0.4	0.4
	T-N	ton	1.200	1.200	0.700
	T-P	ton	0.140	0.060	0.080
	Subtotal	ton	5.44	3.99	2.38
Buyeo Plant	BOD	ton	1.78	1.20	1.59
	COD	ton	4.77	-	-
	TOC	ton	-	5.23	5.24
	SS	ton	3.49	2.86	2.36
	T-N	ton	1.52	0.98	0.95
	T-P	ton	0.12	0.14	0.08
Subtotal	ton	11.68	10.41	10.22	
China plant	BOD	ton	2.50	1.60	1.90
	COD	ton	3.90	2.50	3.00

Employment

Scope	Subcategory	Unit	2019	2020	2021	
Domestic	By gender	Male	person	915	914	898
		Female	person	787	763	767
	By age	Under30	person	194	169	157
		30-49	person	1,045	1,007	968
		50 and older	person	463	501	540
		Total	person	1,702	1,677	1,665
	Overseas	By gender	Male	person	13	16
Female			person	1	1	2
By age		Under30	person	1	-	-
		30-49	person	11	14	18
		50 and older	person	2	3	2
		Total	person	14	17	20
Entire	By gender	Male	person	928	930	916
		Female	person	788	764	769
	By age	Under30	person	195	169	157
		30-49	person	1,056	1,021	986
		50 and older	person	465	504	542
		Total	person	1,716	1,694	1,685

Female employees

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Percentage of female employees	%	46.24	45.50	46.07
Overseas	Percentage of female employees	%	7.14	5.88	10.00
Entire	Percentage of female employees	%	45.92	45.10	45.64

Employment of persons with disabilities

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Employees with disabilities	person	17	16	14
	Employment rate for persons with disabilities	%	0.96	0.95	0.84
Overseas	Employees with disabilities	person	-	-	-
	Employment rate for persons with disabilities	%	-	-	-
Entire	Employees with disabilities	person	17	16	14
	Employment rate for persons with disabilities	%	0.96	0.95	0.84

Average service period

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Male	year	13.76	14.18	14.37
	Female	year	13.02	13.95	14.37
Overseas	Male	year	15.39	15.09	16.01
	Female	year	1.29	2.29	6.15
Entire	Male	year	13.78	14.20	14.41
	Female	year	13.00	13.94	14.35

New employment

Scope	Subcategory	Unit	2019	2020	2021	
Domestic	By gender	Male	person	80	32	30
		Female	person	58	23	37
	By age	Under30	person	77	23	31
		30-49	person	33	20	24
		50 and older	person	28	12	12
		Total	person	138	55	67

KGC ESG Quantitative Data

Turnover

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Male	person	9	7	14
	Female	person	9	9	9
	Total	person	18	16	23
	Turnover rate	%	1.13	1.01	1.46
	Voluntary turnover rate	%	1.13	1.01	1.46

*Full-time employees

Childbirth leave and childcare leave

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Male employees taking childbirth leave	person	6	32	30
	Female employees taking childbirth leave	person	33	28	18
	Rate of male returning to work after childbirth leave	%	100	100	100
	Rate of female returning to work after childbirth leave	%	100	96	100
	Male employees taking childcare leave	person	9	6	3
	Female employees taking childcare leave	person	52	35	24
	Rate of male returning to work after childcare leave	%	100	100	100
	Rate of female returning to work after childcare leave	%	98	100	100
	Rate of male retiring within 12 months after returning to work from childcare leave	%	33	-	-
	Rate of female retiring within 12 months after returning to work from childcare leave	%	4	6	-

Employee training

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Total number of trainees	person	13,516	15,436	21,969
	Male	person	6,737	8,148	11,681
	Female	person	6,779	7,288	10,288
	Annual average training expense per employee	KRW thousand	831	1,030	605
	Male	KRW thousand	831	1,030	605
	Female	KRW thousand	831	1,030	605
	Annual average time spent on training per employee	hour	55.2	27.3	50.6
	Male	hour	55.2	27.3	47.0
	Female	hour	55.2	27.3	54.7
	Overseas	Total number of trainees	person	394	566
Male		person	70	298	334
Female		person	324	268	553
Annual average training expense per employee		KRW thousand	342	113	132
Male		KRW thousand	330	115	133
Female		KRW thousand	339	235	125
Annual average time spent on training per employee		hour	31	20	22
Male		hour	33	18	21
Female		hour	33	19	23
Entire		Total number of trainees	person	13,910	16,002
	Male	person	6,807	8,446	12,015
	Female	person	7,103	7,556	10,841
	Annual average training expense per employee	KRW thousand	1,173	1,144	737
	Male	KRW thousand	1,161	1,146	738
	Female	KRW thousand	1,170	1,266	730
	Annual average time spent on training per employee	hour	86	47	73
	Male	hour	88	45	68
	Female	hour	88	46	78

Union membership

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Employees eligible for membership	person	1,383	1,369	1,371
	Union members	person	1,383	1,369	1,371
	Union membership rate	%	100	100	100

KGC ESG Quantitative Data

Industrial accident

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Number of victims*	person	1	2	3
	Industrial accident rate	%	0.05	0.10	0.18
	accident-related injuries	person	1	2	3
	disease-related injuries	case	0	0	0
	Total working hour	hour	3,594,240	3,521,440	3,344,520

*Daily workers included

Work loss

Scope	Subcategory	Unit	2019	2020	2021
Domestic	(Employee) LTIFR*	-	0.28	0.57	0.60
	(Partners) LTIFR*	-	0.67	0.33	0.00

Board of Directors (BOD)

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Number of BOD meetings held	time	9	8	10
	Attendance rate of non-executive directors	%	89	100	100

Violation of laws and regulations

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Fair trade related legal sanctions	case	-	-	-
	Environment-related penalty	KRW thousand	-	-	6,400
	Violation of display advertising regulation	case	-	-	-
	Personal information leakage	case	-	-	-

R&D

Scope	Subcategory	Unit	2019	2020	2021
Domestic	R&D investment	KRW million	12,246	11,259	12,234
	R&D performance	case	70	66	70
	Patents (owned)	case	229	257	265

Human rights protection

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Sexual harassment prevention training	time	1	1	1
	Employees who completed sexual harassment prevention training	person	1,638	1,444	1,694

Social contribution

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Total social contribution investment	KRW 100 million	8.7	9.2	10.1
	Social contribution investment to sales	%	1	1	1

Yungjin Pharm

Yungjin Pharm ESG Quantitative Data

Energy use

Scope	Subcategory	Unit	2019	2020	2021
Entire	Fuel (LNG)	TJ	25.7	20.7	15.8
	Electricity	TJ	40.5	35.5	31.3
	Total	TJ	66.2	56.2	47.1
	Energy use Intensity	TJ/KRW 100 million	0.03	0.03	0.02

*The 2020 Sustainability Report specified only the Jeonju Plant data, and the 2021 Sustainability Report specifies the total sum of 2019-2021 data from the Jeonju and Namyang Plants.

GHG emissions

Scope	Subcategory	Unit	2019	2020	2021
Entire	Direct emissions (Scope 1)	tCO ₂ eq	1,340.6	1,075.6	807.7
	Indirect emissions (Scope 2)	tCO ₂ eq	4,959.4	4,368.8	3,986.0
	Total (Scope 1+2)	tCO ₂ eq	6,300.0	5,444.4	4,793.7
	GHG emission intensity (Scope 1+2)	tCO ₂ eq/KRW 100 million	2.9	2.6	2.4

Environmental investment

Scope	Subcategory	Unit	2019	2020	2021
Entire	Environmental investment plan	KRW million	475.0	1,231.0	1,089.0
	Environmental investment practice	KRW million	339.0	1,247.0	114.5
	Execution rate	%	71.4	101.3	10.5

Water consumption

Scope	Subcategory	Unit	2019	2020	2021
Entire	Waterworks	ton	124,121.0	105,257.0	92,913.0
	underwater	ton	5,523.0	0.0	0.0
	Total	ton	129,644.0	105,257.0	92,913.0
	Water recycling	ton	33,944.0	36,783.0	6,348.0
	Water use Intensity	ton/KRW 100 million	58.8	50.5	47.4

Waste Emissions and Recycling

Scope	Subcategory	Unit	2019	2020	2021
Namyang plant	Incineration	ton	155.8	167.3	213.6
	Landfill	ton	-	-	4.8
	Recycling	ton	-	6.1	10.2
	Subtotal waste emitted	ton	155.8	173.4	228.6
	Waste recycling rate	%	-	3.5	4.4
Jeonju plant	Incineration	ton	2,140.2	520.5	96.4
	Landfill	ton	265.3	145.8	56.4
	Recycling	ton	3,059.6	2,896.8	1,709.2
	Subtotal waste emitted	ton	5,465.1	3,563.1	1,862.0
	Waste recycling rate	%	56.0	81.3	91.8
Entire	Incineration	ton	2,296.0	687.8	309.9
	Landfill	ton	265.3	145.8	61.2
	Recycling	ton	3,059.6	2,902.9	1,719.4
	Total waste emitted	ton	5,620.9	3,736.5	2,090.5
	Waste recycling rate	%	54.4	77.7	82.2
	Waste emission intensity	ton/KRW 100 million	2.5	1.8	1.1

Air pollutant emissions

Scope	Subcategory	Unit	2019	2020	2021
Namyang plant	NOx	ppm	0.0	36.0	40.6
	SOx	ppm	0.0	4.3	1.9
	Dust (PM)	mg/Sm ³	6.1	4.3	4.0
Jeonju plant	NOx	ppm	78.7	16.9	-
	SOx	ppm	0.0	0.3	-
	Dust (PM)	mg/Sm ³	3.3	4.5	3.1
Entire	NOx	ppm	78.7	52.9	40.6
	SOx	ppm	0.0	4.5	1.9
	Dust (PM)	mg/Sm ³	9.4	8.8	7.1

*The 2021 Sustainability Report corrected and specified 2019 and 2020 data errors of the 2020 Sustainability Report.

Yungjin Pharm

Yungjin Pharm ESG Quantitative Data

Water pollutant emissions

Scope	Subcategory	Unit	2019	2020	2021
Namyang plant	BOD	mg/L	0.6	1.9	1.9
	COD	mg/L	16.0	5.6	6.1
	SS	mg/L	3.0	0.7	-
	T-N	mg/L	13.2	11.4	13.9
	T-P	mg/L	-	0.7	1.1
	Subtotal	mg/L	32.7	20.3	22.9
Jeonju plant	BOD	mg/L	87.2	60.0	260.0
	COD	mg/L	142.0	96.0	290.0
	SS	mg/L	15.4	96.0	59.0
	T-N	mg/L	10.2	69.3	29.6
	T-P	mg/L	-	-	-
	Subtotal	mg/L	254.9	321.6	638.8
Entire	BOD	mg/L	87.8	61.9	261.9
	COD	mg/L	158.0	101.6	296.1
	SS	mg/L	18.4	96.7	59.0
	T-N	mg/L	23.4	80.6	43.6
	T-P	mg/L	-	0.7	1.1
	Total	mg/L	287.6	341.9	661.7

Employment

Scope	Subcategory	Unit	2019	2020	2021	
Domestic	By gender	Male	person	485	462	462
		Female	person	161	168	167
	By age	Under 30	person	131	108	114
		30-49	person	449	443	429
		50 and older	person	66	79	86
		Total	person	646	630	629
	Percentage of female employees	%	24.9	26.7	26.6	

Employment of persons with disabilities

Scope	Subcategory	Unit	2019	2020	2021
	Employees with disabilities	person	3	3	3
	Employment rate for persons with disabilities	%	0.5	0.5	0.5

Average service period

Scope	Subcategory	Unit	2019	2020	2021
Entire	Male	Year	9.9	11.0	11.2
	Female	Year	9.0	9.3	10.2

New employment

Scope	Subcategory	Unit	2019	2020	2021	
Domestic	By gender	Male	person	49	19	27
		Female	person	31	17	14
	By age	Under 30	person	46	17	24
		30-49	person	33	18	14
		50 and older	person	1	1	3
		Total	person	80	36	41

Turnover

Scope	Subcategory	Unit	2019	2020	2021
Entire	Male	person	30	33	33
	Female	person	13	10	19
	Total	person	43	43	52
	Turnover rate	%	6.7	6.8	8.3
	Voluntary turnover rate	%	6.6	6.8	7.8

*Full-time employees

Childbirth leave and childcare leave

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Male employees taking childbirth leave	person	6	6	23
	Female employees taking childbirth leave	person	6	5	8
	Rate of male returning to work after childbirth leave	%	100.0	100.0	100.0
	Rate of female returning to work after childbirth leave	%	100.0	100.0	100.0
	Male employees taking childcare leave	person	1	-	-
	Female employees taking childcare leave	person	4	6	8
	Rate of male returning to work after childcare leave	%	-	-	-
	Rate of female returning to work after childcare leave	%	75.0	100.0	100.0

Yungjin Pharm

Yungjin Pharm ESG Quantitative Data

Union membership

Scope	Subcategory	Unit	2019	2020	2021
Entire	Employees eligible for membership	person	476	455	454
	Union members	person	371	399	395
	Union membership rate	%	77.9	87.7	87.0

Employee training

Scope	Subcategory	Unit	2019	2020	2021
Entire	Total number of trainees	person	229	157	165
	Annual average training expense per employee	KRW thousand	448	146	234
	Annual average time spent on training per employee	hour	18.7	21.0	21.4

Performance evaluation

Scope	Subcategory	Unit	2019	2020	2021
Entire	Employees subject to evaluation	person	578	588	581
	Percentage of employees evaluated	%	89.5	93.3	92.4

Human rights protection

Scope	Subcategory	Unit	2019	2020	2021
Entire	Sexual harassment prevention training	time	2	1	1
	Employees who completed sexual harassment prevention training	person	627	586	623

Social contribution

Scope	Subcategory	Unit	2019	2020	2021
Entire	Total social contribution investment	KRW 100 million	0.23	0.98	0.04
	Social contribution investment to sales	%	0.01	0.05	0.00

Industrial accident

Scope	Subcategory	Unit	2019	2020	2021
Entire	Number of victims	person	-	-	-
	Industrial accident rate	%	-	-	-
	accident-related injuries	case	-	-	-
	disease-related injuries	case	-	-	-
	Total working hour	hour	1,678,204	1,613,965	1,577,904

Work loss

Scope	Subcategory	Unit	2019	2020	2021
Entire	(Employee) LTIFR*	-	-	-	0.60

Board of Directors (BOD)

Scope	Subcategory	Unit	2019	2020	2021
Entire	Number of BOD meetings held	time	8	10	10
	Attendance rate of non-executive directors	%	100.0	93.9	93.3

Violation of laws and regulations

Scope	Subcategory	Unit	2019	2020	2021
Entire	Fair trade related legal sanctions	case	-	-	-
	Environment-related penalty	KRW thousand	1,600	-	-
	Violation of display advertising regulation	case	-	-	-
	Personal information infringement	case	-	-	-

R&D

Scope	Subcategory	Unit	2019	2020	2021
Entire	R&D investment	KRW million	13,513	15,074	13,261
	R&D performance	case	48	36	16
	Patents (owned)	case	154	190	176

COSMOCOS

COSMOCOS ESG Quantitative Data

Energy use

Scope	Subcategory	Unit	2019	2020	2021
Entire	Fuel (LNG)	TJ	7.2	8.0	8.4
	Electricity	TJ	21.7	22.7	23.6
	Total	TJ	28.9	30.7	32.1
	Energy use Intensity	TJ/KRW 100 million	0.04	0.05	0.04

GHG emissions

Scope	Subcategory	Unit	2019	2020	2021
Entire	Direct emissions (Scope 1)	tCO ₂ eq	364	408	426
	Indirect emissions (Scope 2)	tCO ₂ eq	1,052	1,101	1,131
	Total (Scope 1+2)	tCO ₂ eq	1,416	1,508	1,558
	GHG emission intensity (Scope 1+2)	tCO ₂ eq/KRW 100 million	1.98	2.30	2.16

Water consumption

Scope	Subcategory	Unit	2019	2020	2021
Entire	Waterworks	ton	23,737	29,866	28,437
	Total	ton	23,737	29,866	28,437
	Water use Intensity	ton/KRW 100 million	33.26	45.57	39.44

Waste Emissions and Recycling

Scope	Subcategory	Unit	2019	2020	2021
Entire	Incineration	ton	159	153	93
	Recycling	ton	255	263	279
	Total waste emitted	ton	413	416	372
	Waste emission intensity	ton/KRW 100 million	0.58	0.63	0.52

Air pollutant emissions

Scope	Subcategory	Unit	2019	2020	2021
Incheon Plant	NOx	ppm	-	-	25.70
	SOx	ppm	0.08	non-detection	0.55
	Dust (PM)	mg/Sm ³	2.58	1.48	1.68

Water pollutant emissions

Scope	Subcategory	Unit	2019	2020	2021
Incheon Plant	BOD	mg/L	4.30	15.45	5.4
	COD	mg/L	21.25	37.15	33.4
	SS	mg/L	4.80	17.65	15.1
	T-N	mg/L	18.27	6.81	12.54
	T-P	mg/L	0.022	0.047	0.063
	Total	mg/L	49	77	66

COSMOCOS

COSMOCOS ESG Quantitative Data

Employment

Scope	Subcategory	Unit	2019	2020	2021	
Entire	By gender	Male	person	122	129	129
		Female	person	137	134	135
	By age	Under 30	person	36	35	32
		30-49	person	158	169	170
		50 and older	person	65	59	62
		Total	person	259	263	264
		Percentage of female employees	%	53	51	51

Employment of persons with disabilities

Scope	Subcategory	Unit	2019	2020	2021
Entire	Employees with disabilities	person	5	5	5
	Employment rate for persons with disabilities	%	1.92	1.85	1.90

Average service period

Scope	Subcategory	Unit	2019	2020	2021
Entire	Male	Year	9.4	9.4	9.3
	Female	Year	9.7	9.6	8.9

New employment

Scope	Subcategory	Unit	2019	2020	2021	
Domestic	By gender	Male	person	21	19	23
		Female	person	20	17	33
	By age	Under 30	person	22	10	22
		30-49	person	19	25	33
		50 and older	person	-	1	1
		Total	person	41	36	56

Turnover

Scope	Subcategory	Unit	2019	2020	2021
Entire	Male	person	14	10	19
	Female	person	20	16	32
	Total	person	34	26	51
	Turnover rate	%	14	10	20
	Voluntary turnover rate	%	99.6	96.4	97.6

*Full-time employees

Childbirth leave and childcare leave

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Male employees taking childbirth leave	person	4	3	4
	Female employees taking childbirth leave	person	10	1	4
	Rate of male returning to work after childbirth leave)	%	100	100	100
	Rate of female returning to work after childbirth leave	%	100	100	100
	Male employees taking childcare leave	person	-	1	1
	Female employees taking childcare leave	person	8	2	5
	Rate of male returning to work after childcare leave	%	0	100	100
	Rate of female returning to work after childcare leave	%	88	100	100
	Rate of male retiring within 12 months after returning to work from childcare leave	%	0	0	0
	Rate of female retiring within 12 months after returning to work from childcare leave	%	50	50	0

Employee training

Scope	Subcategory	Unit	2019	2020	2021
Entire	Total number of trainees	person	21	39	88
	Male	person	18	34	47
	Female	person	3	5	41
	Annual average training expense per employee	KRW thousand	133	195	94
	Male	KRW thousand	150	207	98
	Female	KRW thousand	33	105	88
	Annual average time spent on training per employee	hour	8	13	9
	Male	hour	8	13	9
	Female	hour	4	11	10

COSMOCOS

COSMOCOS ESG Quantitative Data

Performance evaluation

Scope	Subcategory	Unit	2019	2020	2021
Entire	Employees subject to evaluation	person	215	195	220
	Percentage of employees evaluated	%	70	66	70

Human rights protection

Scope	Subcategory	Unit	2019	2020	2021
Entire	Sexual harassment prevention training	time	1	1	1
	Employees who completed sexual harassment prevention training	person	259	263	275

Industrial accident

Scope	Subcategory	Unit	2019	2020	2021
Entire	Number of victims	person	4	1	1
	Industrial accident rate	%	1.52	0.38	0.38
	accident-related injuries	case	4	1	1
	disease-related injuries	case	-	-	-
	Total working hour	hour	505,920	512,237	503,360

Work loss

Scope	Subcategory	Unit	2019	2020	2021
Entire	(Employee) LTIFR*	-	7.91	1.95	1.99

Violation of laws and regulations

Scope	Subcategory	Unit	2019	2020	2021
Entire	Fair trade related legal sanctions	case	-	-	-
	Environment-related penalty	KRW thousand	-	-	-
	Violation of display advertising regulation	case	-	-	-
	Personal information infringement	case	-	-	-

R&D

Scope	Subcategory	Unit	2019	2020	2021
Entire	R&D investment	KRW million	422	273	426
	R&D performance	case	85	121	192
	Patents(owned) + published papers	case	2	1	4

Tae-A Industrial

Tae-A Industrial ESG Quantitative Data

Energy use

Scope	Subcategory	Unit	2019	2020	2021
Entire	Fuel (LNG)	TJ	220	229	246
	Electricity	TJ	131	137	146
	Total	TJ	351	367	392
	Energy use Intensity	TJ/KRW 100 million	1.8	1.7	1.6

GHG emissions

Scope	Subcategory	Unit	2019	2020	2021
Entire	Direct emissions (Scope 1)	tCO ₂ eq	17,499	18,188	19,569
	Indirect emissions (Scope 2)	tCO ₂ eq	-	-	-
	Total (Scope 1+2)	tCO ₂ eq	17,499	18,188	19,569
	GHG emission intensity (Scope 1+2)	tCO ₂ eq/KRW 100 million	91.7	83.6	77.5

Environmental investment

Scope	Subcategory	Unit	2019	2020	2021
Entire	Environmental investment plan	KRW million	461	818	1,140
	Environmental investment practice	KRW million	510	704	838
	Execution rate	%	111	86	73

Water consumption

Scope	Subcategory	Unit	2019	2020	2021
Entire	Waterworks	ton	459,505	445,096	439,106
	underwater	ton	18,559	12,949	8,625
	Total	ton	478,064	458,045	447,731
	Water use intensity	ton/KRW 100 million	2,504	2,105	1,774

Waste emissions and recycling

Scope	Subcategory	Unit	2019	2020	2021
Entire	Incineration	ton	143	131	194
	Recycling	ton	5,618	5,760	5,733
	Total waste emitted	ton	5,761	5,892	5,927
	Waste recycling rate	%	97.5	97.8	96.7
	Waste emission intensity	ton/KRW 100 million	30.2	27.1	23.5

Air pollutant emissions

Scope	Subcategory	Unit	2019	2020	2021
Daejeon plant	NOx	ppm	-	28.0	15.0
	Dust (PM)	mg/Sm ³	6.9	4.7	3.4
Gimcheon plant	NOx	ppm	21.7	23.1	23.5
	SOx	ppm	0.2	0.2	0.5
	Dust (PM)	mg/Sm ³	2.1	1.5	1.6

Water pollutant emissions

Scope	Subcategory	Unit	2019	2020	2021
Daejeon plant	BOD	mg/L	14.2	13.0	5.3
	COD	mg/L	77.0	86.0	87.2
	SS	mg/L	16.0	17.0	11.0
	T-N	mg/L	14.3	16.4	12.7
	T-P	mg/L	0.2	0.1	0.1
Gimcheon plant	BOD	mg/L	6.4	4.1	4.0
	COD	mg/L	46.4	30.5	28.3
	SS	mg/L	12.4	10.4	9.4
	T-N	mg/L	16.1	11.0	0.2
	T-P	mg/L	1.0	0.7	0.4

Tae-A Industrial

Tae-A Industrial ESG Quantitative Data

Employment

Scope	Subcategory	Unit	2019	2020	2021	
Entire	By gender	Male	person	88	94	106
		Female	person	6	6	6
	By age	Under 30	person	15	14	20
		30-49	person	54	62	70
		50 and older	person	25	24	21
		Total	person	94	100	112
		Percentage of female employees	%	6.4	6.0	5.4

Employment of persons with disabilities

Scope	Subcategory	Unit	2019	2020	2021
Entire	Employees with disabilities	person	1	1	1
	Employment rate for persons with disabilities	%	1.1	1.0	0.9

Average service period

Scope	Subcategory	Unit	2019	2020	2021
Entire	Male	year	7	7	7
	Female	year	14	15	12

New employment

Scope	Subcategory	Unit	2019	2020	2021	
Entire	By gender	Male	person	22	12	18
		Female	person	1	-	1
	By age	Under 30	person	9	3	10
		30-49	person	13	7	8
		50 and older	person	1	1	1
		Total	person	23	12	19

Turnover

Scope	Subcategory	Unit	2019	2020	2021
Entire	Male	person	4	6	9
	Female	person	1	-	-
	Total	person	5	6	9
	Turnover rate	%	6.6	6.4	9.0
	Voluntary turnover rate	%	2.6	4.3	4.0

*Full-time employees

Childbirth leave and childcare leave

Scope	Subcategory	Unit	2019	2020	2021
Entire	Male employees taking childbirth leave	person	3	2	6
	Female employees taking childbirth leave	person	-	-	1
	Rate of male returning to work after childbirth leave	%	100	100	100
	Rate of female returning to work after childbirth leave	%	-	-	-
	Male employees taking childcare leave	person	-	-	1
	Female employees taking childcare leave	person	-	-	1

Union membership

Scope	Subcategory	Unit	2019	2020	2021
Entire	Employees eligible for membership	person	75	81	85
	Union members	person	75	81	85
	Union membership rate	%	100	100	100

Employee training

Scope	Subcategory	Unit	2019	2020	2021
Entire	Total number of trainees	person	340	403	491
	Male	person	313	378	464
	Female	person	27	25	27
	Annual average training expense per employee	KRW thousand	123	84	96
	Male	KRW thousand	122	85	96
	Female	KRW thousand	136	69	85
	Annual average time spent on training per employee	hour	25	24	28
	Male	hour	25	24	28
	Female	hour	26	20	26

Tae-A Industrial

Tae-A Industrial ESG Quantitative Data

Performance evaluation

Scope	Subcategory	Unit	2019	2020	2021
Entire	Employees subject to evaluation	person	91	97	109
	Percentage of employees evaluated	%	100	100	100

Human rights protection

Scope	Subcategory	Unit	2019	2020	2021
Entire	Sexual harassment prevention training	time	1	1	1
	Employees who completed sexual harassment prevention training	person	112	120	131

Industrial accident

Scope	Subcategory	Unit	2019	2020	2021
Entire	Number of victims	person	1	2	-
	Industrial accident rate	%	1.33	2.22	-
	accident-related injuries	case	1	2	-
	disease-related injuries	case	-	-	-
	Total working hour	hour	182,987	193,139	207,913

Work loss

Scope	Subcategory	Unit	2019	2020	2021
Entire	(Employee) LTIFR*	-	5	10	-

Board of Directors (BOD)

Scope	Subcategory	Unit	2019	2020	2021
Entire	Number of BOD meetings held	time	8	8	8
	Attendance rate of non-executive directors	%	100	87.5	100

Violation of laws and regulations

Scope	Subcategory	Unit	2019	2020	2021
Entire	Fair trade related legal sanctions	case	-	-	-
	Environment-related penalty	KRW thousand	-	14,131	2,480
	Violation of display advertising regulation	case	-	-	-
	Personal information infringement	case	-	-	-

KGCYebon

KGCYebon ESG Quantitative Data

Energy use

Scope	Subcategory	Unit	2019	2020	2021
Entire	Fuel (LNG)	TJ	45	56	56
	Electricity	TJ	57	68	63
	Total	TJ	102	124	119
	Energy use Intensity	TJ/KRW 100 million	0.80	0.89	0.77

GHG emissions

Scope	Subcategory	Unit	2019	2020	2021
Entire	Direct emissions (Scope 1)	tCO ₂ e	2,261	2,838	2,834
	Indirect emissions (Scope 2)	tCO ₂ e	2,773	3,279	3,021
	Total (Scope 1+2)	tCO₂e	5,035	6,117	5,855
	GHG emission intensity (Scope 1+2)	tCO ₂ e/KRW 100 million	39.6	44.0	38.0

Water consumption

Scope	Subcategory	Unit	2019	2020	2021
Entire	Waterworks	ton	30,644	38,224	37,012
	underwater	ton	55,883	83,157	82,949
	Total	ton	86,527	121,381	119,961
	Water use Intensity	ton/KRW	681	873	779

Waste Emissions and Recycling

Scope	Subcategory	Unit	2019	2020	2021
Entire	Incineration	ton	4,572	9,780	4,806
	Recycling	ton	2,192	2,993	2,513
	Total waste emitted	ton	6,764	12,773	7,319
	Waste recycling rate	%	32.4	23.4	34.3
	Waste emission intensity	ton/KRW	53	92	50,806

Air pollutant emissions

Scope	Subcategory	Unit	2019	2020	2021
Entire	NOx	ppm	1.2	0.8	4.7
	SOx	ppm	15	4	44
	Dust (PM)	mg/Sm ³	3	3	2

Water pollutant emissions

Scope	Subcategory	Unit	2019	2020	2021
Entire	BOD	mg/L	1.9	3.8	5
	COD	mg/L	14.8	19.7	23.5
	SS	mg/L	1.8	3.7	14.8
	T-N	mg/L	1.82	1.75	2.37
	T-P	mg/L	0.202	0.098	0.031
	Total	mg/L	20.522	29.048	45.703

Employment

Scope	Subcategory	Unit	2019	2020	2021	
Entire	By gender	Male	person	74	74	73
		Female	person	6	8	9
	By age	Under 30	person	9	11	13
		30-49	person	61	59	54
		50 and older	person	10	12	15
	Total	person	80	82	82	

Average service period

Scope	Subcategory	Unit	2019	2020	2021
Entire	Male	year	4	5	6
	Female	year	3	3	3

New employment

Scope	Subcategory	Unit	2019	2020	2021	
Entire	By gender	Male	person	6	9	7
		Female	person	1	3	2
	By age	Under 30	person	-	10	5
		30-49	person	7	2	4
		50 and older	person	-	-	-
	Total	person	7	12	9	

KGCYebon

KGCYebon ESG Quantitative Data

Turnover

Scope	Subcategory	Unit	2019	2020	2021
Entire	Male	person	10	8	9
	Female	person	2	1	2
	Total	person	12	9	11
	Turnover rate	%	15	11	14
	Voluntary turnover rate	%	100	100	100

*Full-time employees

Childbirth leave and childcare leave

Scope	Subcategory	Unit	2019	2020	2021
Domestic	Male employees taking childbirth leave	person	1	-	1
	Female employees taking childbirth leave	person	1	-	1
	Rate of male returning to work after childbirth leave	%	100	-	100
	Rate of female returning to work after childbirth leave	%	-	-	100
	Male employees taking childcare leave	person	1	-	-
	Female employees taking childcare leave	person	1	-	1
	Rate of male returning to work after childcare leave	%	100	-	-
	Rate of female returning to work after childcare leave	%	100	-	-
	Rate of male retiring within 12 months after returning to work from childcare leave	%	100	-	-
	Rate of female retiring within 12 months after returning to work from childcare leave	%	-	-	-

Employee training

Scope	Subcategory	Unit	2019	2020	2021
Entire	Total number of trainees	person	23	33	30
	Male	person	21	31	29
	Female	person	2	2	1
	Annual average training expense per employee	KRW thousand	160	174	154
	Male	KRW thousand	164	175	154
	Female	KRW thousand	114	160	150
	Annual average time spent on training per employee	hour	13	14	12
	Male	hour	13	14	12
	Female	hour	8	8	8

Performance evaluation

Scope	Subcategory	Unit	2019	2020	2021
Entire	Employees subject to evaluation	person	44	42	45
	Percentage of employees evaluated	%	52	54	54

Human rights protection

Scope	Subcategory	Unit	2019	2020	2021
Entire	Sexual harassment prevention training	time	4	7	6
	Employees who completed sexual harassment prevention training	person	81	82	80

Board of Directors (BOD)

Scope	Subcategory	Unit	2019	2020	2021
Entire	Number of BOD meetings held	time	7	6	6
	Attendance rate of non-executive directors	%	93	100	100

Violation of laws and regulations

Scope	Subcategory	Unit	2019	2020	2021
Entire	Fair trade related legal sanctions	case	-	-	-
	Environment-related penalty	KRW thousand	-	-	-
	Violation of display advertising regulation	case	-	-	-
	Personal information infringement	case	-	-	-

R&D

Scope	Subcategory	Unit	2019	2020	2021
Entire	R&D investment	KRW million	612	518	341
	R&D performance	case	11	17	10



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