

Environmental Data

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Environmental Management

► Sites receiving third-party assurance (100% of sales)

All business locations inside Japan (however, headquarters, sales offices, and Unicharm Mölnlycke have assurances only for fuel, electricity, and CO₂)

Unicharm Corporation (sales offices, R&D, Itami Factory, Mie Factory, and Saitama Factory), Unicharm Products Co., Ltd. (Fukushima Factory, Shizuoka Factory, Shikoku Factory, and Kyushu Factory), Unicharm Kokko Nonwoven Co., Ltd. (Non-Woven Manufacturing Group of Toyohama Manufacturing Team, Kawanoe Manufacturing Team, Kokko Manufacturing Team, Processed Products Manufacturing Group of Toyohama Wet Wipe Manufacturing Team, and Kawanoe Food Packaging Manufacturing Team), Cosmotec Corporation, Unicharm Mölnlycke K.K., Peparlet Co., Ltd., and Kinsei Products Co., Ltd.



Overseas (manufacturing locations only)

China: Unicharm Consumer Products (China) Co., Ltd., Unicharm Consumer Products (Jiangsu) Co., Ltd., Unicharm Consumer Products (Tianjin) Co., Ltd., Unicharm Nonwoven Tianjin Co., Ltd., and Unicharm Packaging Materials (Tianjin) Co., Ltd.
Indonesia: PT Uni-Charm Indonesia Tbk (Karawang Factory and East Java Factory), PT Uni-Charm Nonwoven Indonesia
Thailand: Uni-Charm (Thailand) Co., Ltd. (Wellgrow Factory) and DSG International (Thailand) Public Co., Ltd.
India: Unicharm India (Sri City Factory and Neemrana Factory)
Taiwan–Greater China: Unicharm Co., Ltd. (Junan Factory)
Vietnam: Diana Unicharm Joint Stock Company (Bắc Ninh Factory)
United States: The Hartz Mountain Corporation (Hartz Pleasant Plain Factory)
South Korea: LG-Unicharm Co., Ltd. (Gumi Factory)
Saudi Arabia: Unicharm Gulf Hygienic Industries Ltd. (Riyadh Factory)
Egypt: Unicharm Middle East & North Africa Hygienic Industries Company S.A.E. (Ramadan Factory)
Brazil: UNICHARM DO BRASIL INDÚSTRIA E COMÉRCIO DE PRODUTOS DE HIGIENE LTDA. (São Paulo Factory)
Myanmar: Unicharm Myanmar Company Limited
Malaysia: Disposable Soft Goods (Malaysia) Sdn. Bhd.

Policies and standards

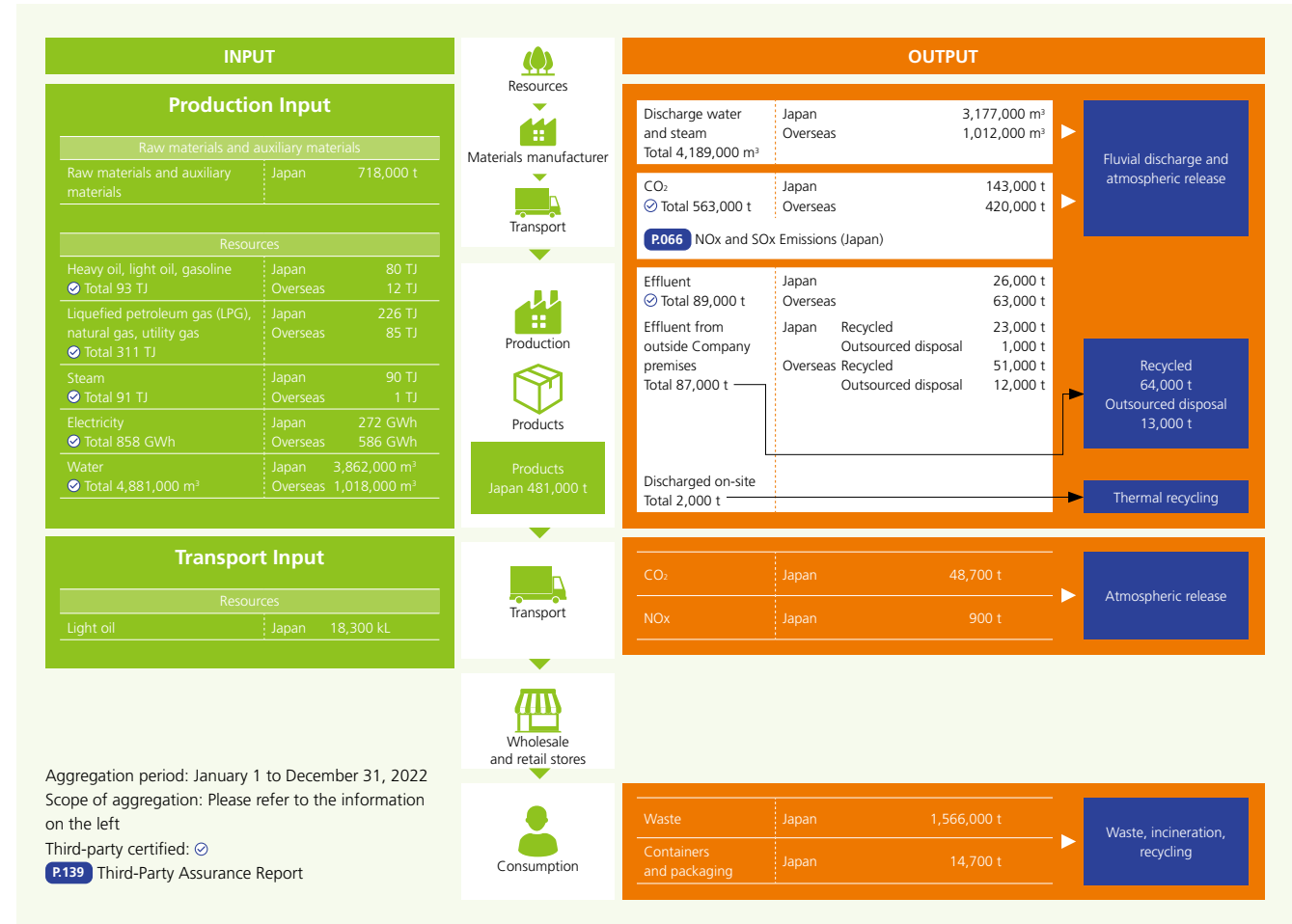
Aggregation is based on Company rules concerning the management of environmental information in accordance with relevant environmental laws and regulations, including the Act on Rationalizing Energy Use, the Act on Promotion of Global Warming Countermeasures, and the Waste Management and Public Cleansing Law.

Notes

1. CO₂ emissions in Japan are calculated based on the 2021 emission factors under the Act on Rationalizing Energy Use and the Act on Promotion of Global Warming Countermeasures. The overseas portion is calculated based on the emission factors of the Institute for Global Environmental Strategies (IGES) 2021 emission factors: 1.031 for China, 0.811 for Indonesia, 0.572 for Thailand, 0.990 for India, 1.031 for Taiwan–Greater China, 0.661 for Vietnam, 0.911 for South Korea, 0.654 for Saudi Arabia, 0.579 for Egypt, and 0.619 for Malaysia (t-CO₂/kWh) The United States and Brazil use 100% renewable electricity while Myanmar uses 100% private power generation.
2. In terms of transportation, we have statistics only for inside Japan.
3. Discharge includes industrial waste, general waste from offices, and recyclables.
4. Figures estimated from incinerator operations at the Fukushima Factory are used for the volume of thermally recycled incinerated waste materials on premises.
5. To increase the reliability of our non-financial data, we have received third-party assurance from PricewaterhouseCoopers Sustainability LLC, based on ISAE 3000 and ISAE 3410. Items on the right that have received third-party assurance are marked with .
6. Scope 3 emissions third-party assurance within Japan is denoted using the  symbol.

► Energy/Material Flow from a Life Cycle Perspective

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► Violations of Environmental Laws and Regulations

It was confirmed that, in 2022, surveys, data, and documentation for submission to governments as required by environmental laws and regulations were again submitted correctly. No fines have been incurred due to violations of environmental laws or regulations. Furthermore, there are no environmental matters pending.

► Resources Used in Product Development

	Unit	2020	2021	2022
Raw materials and auxiliary materials	Japan Thousand tons	493	493	718
Heavy oil, light oil, gasoline	Japan	89.4	93	80
	Overseas	8.2	9	12
	Total	97.6	102	93
Liquefied petroleum gas (LPG), natural gas, utility gas	Japan	237.0	238	226
	Overseas	117.4	107	85
	Total	354.4	345	311
Steam	Japan	80.9	77.7	90
	Overseas	—	—	1
	Total	80.9	77.7	91
Electricity	Japan	274	273	272
	Overseas	432	449	586
	Total	706	721	858
Water	Japan	3,961	3,926	3,862
	Overseas	1,088	1,045	1,018
	Total	5,049	4,970	4,881
Light oil used for transport	Japan Thousand kL	18.0	18.3	18.3

► Total Product Weight (Japan)

	Unit	2020	2021	2022
Total product weight	Thousand tons	491	491	481

► The Unicharm Group's ISO Certifications

(As of December 31, 2022)

Name of Certified Group Company	ISO 14001	ISO 9001	ISO 13485	ISO 45001
Unicharm Corporation and Unicharm Products Co., Ltd.	○	○	○*	
Unicharm Kokko Nonwoven Co., Ltd.	○	○	—	○
Cosmotec Corporation		○	—	
United Charm (Taiwan–Greater China) Co., Ltd.	○	○	—	○
Uni-Charm (Thailand) Co., Ltd.	○	○	○	○
PT. UNI-CHARM INDONESIA Tbk (Factory 1)	○	○	○	
PT. UNI-CHARM INDONESIA Tbk (Factory 2)	○	○	○	
PT. UNI-CHARM INDONESIA Tbk (Factory 3)	○	○	○	
Unicharm Consumer Products (China) Co., Ltd.	○	○	—	
Unicharm Consumer Products (Jiangsu) Co., Ltd.	○	○	—	○
Unicharm Consumer Products (Tianjin) Co., Ltd.	○	○	—	○

Name of Certified Group Company	ISO 14001	ISO 9001	ISO 13485	ISO 45001
Unicharm Gulf Hygienic Industries Ltd.	○	○	—	○
LG-Unicharm Co., Ltd.	○	○	—	
Unicharm India Private Limited		○	—	
Unicharm Australasia Holding Pty Ltd.		○	—	
Unicharm Middle East & North Africa Hygienic Industries Company S.A.E.	○	○	—	○
UNICHARM DO BRASIL INDÚSTRIA E COMÉRCIO DE PRODUTOS DE HIGIENE LTDA.		○	—	
Diana Unicharm Joint Stock Company		○	—	
DSG International (Thailand) Public Co., Ltd.	○	○	—	
Disposable Soft Goods (Malaysia) Sdn. Bhd.		○	—	

* ISO 13485 certification is applicable only to Unicharm Products Co., Ltd.

—: Not acquired

Waste and Resource Utilization

► Waste Disposal Volume

	Unit	2020	2021	2022
Japan		23.4	23.7	24.4
Overseas	Thailand	7.7	8.0	7.6
	China	17.9	19.5	19.0
	Indonesia	7.8	8.3	8.1
	India	4.8	6.5	8.0
	Vietnam	5.8	6.0	5.8
	Taiwan–Greater China	0.9	0.8	0.8
	United States	1.4	4.4	4.0
	South Korea	1.7	1.6	1.5
	Saudi Arabia	3.7	3.9	4.1
	Egypt	1.2	1.5	1.7
	Myanmar	0.001	0.010	0.011
	Brazil	1.4	1.2	1.2
	Malaysia	1.4	1.5	1.3
	Total	55.7	63.2	63.1
Total		79.1	86.9	87.5
Per unit	Tons/million yen	0.118	0.120	0.097

▶ Recycling Rate

	Unit	2020	2021	2022
Japan*	%	99.6	99.5	99.3

* Material + thermal results from four key Japanese sites

Climate Change

▶ Energy Use

	Unit	2020	2021	2022
Japan		3,018	3,035	3,029
Overseas	Thailand	1,122	1,071	988
	China	1,139	1,223	978
	Indonesia	1,446	1,510	1,482
	India	392	401	629
	Vietnam	467	412	331
	Taiwan–Greater China	92	86	76
	United States	72	67	62
	South Korea	128	127	132
	Saudi Arabia	556	582	591
	Egypt	123	140	164
	Myanmar	5	5	7
	Brazil	130	123	132
	Malaysia	113	125	118
	Total	5,785	5,872	5,690
Total		8,803	8,907	8,719
Per unit	TJ/million yen	0.013	0.012	0.010

▶ CO₂ Emissions by Scope (Japan)

Scope	Category	Unit	2020	2021	2022	Remarks
Scope 1	Direct emissions		24.7	24.8	21.8	
Scope 2	Indirect emissions from energy sources		139.8	117.7	121.2	
Scope 3	1 Purchased goods and services	Thousand tons	1,065.0	959.0	948.6	Method of calculation was revised to avoid double counting of emissions reductions between product manufacturers and raw material suppliers
	2 Capital goods		41.0	68.0	12.6	
	3 Fuel- and energy-related activities not included in Scope 1 or Scope 2		3.0	22.0	19.0	
	4 Upstream transportation and distribution		48.0	48.0	48.7	
	5 Waste generated in operations		1.1	1.2	1.2	
	6 Business travel		0.1	0.1	0.4	
	7 Employee commuting		1.7	1.9	2.0	
	8 Upstream leased assets		0.7	0.8	0.8	
	9 Downstream transportation and distribution		—	—	28.4	
	10 Processing of sold products		0.0	0.0	0.0	Does not apply to any work process
	11 Use of sold products		0.0	0.0	0.0	
	12 End-of-life treatment of products after use		817.0	841.0	791.2	Method of calculation was revised to avoid double counting of emissions reductions between product manufacturers and raw material suppliers
	13 Downstream leased assets		0.0	0.0	0.0	Does not apply to any work process
	14 Franchises		0.0	0.0	0.0	
	15 Investments		0.0	0.0	0.0	
Total for Scope 3			1,977.6	1,942.0	1,852.9	
Total for Scopes 1, 2, and 3			2,142.1	2,084.5	1,995.9	

► Scope 1 and Scope 2 CO₂ Emissions

		Unit	2020	2021	2022
Japan		Thousand tons	164.0	142.0	143.0
Overseas	Thailand		57.0	54.0	57.0
	China		83.0	74.0	83.0
	Indonesia		115.0	121.0	119.0
	India		36.0	37.0	62.0
	Vietnam		16.0	15.0	22.0
	Taiwan–Greater China		7.0	7.0	8.0
	United States		3.0	3.0	0.0
	South Korea		7.0	7.0	12.0
	Saudi Arabia		41.0	43.0	39.0
	Egypt		5.0	6.0	10.0
	Myanmar		0.3	0.3	0.5
	Brazil		0.0	0.0	0.0
	Malaysia		8.0	9.0	8.0
	Total		378.3	376.3	420.5
Total			542.3	518.3	563.5
Per unit		Tons/million yen	0.811	0.716	0.627

► Procurement of Renewable Electricity

		Unit	2020	2021	2022
Japan		kWh	3,076,493	15,853,916	34,274,222
Overseas	Thailand		0	9,957,556	10,678,188
	China		19,619,579	19,812,584	23,143,030
	Indonesia		0	0	927,099
	India		0	0	0
	Vietnam		0	5,159,022	5,146,197
	Taiwan–Greater China		0	0	0
	United States		0	540,607	6,187,714
	South Korea		0	0	0
	Saudi Arabia		0	0	0
	Egypt		0	0	0
	Myanmar		0	0	0
	Brazil		13,023,228	12,374,215	13,229,604
	Malaysia		0	0	0
	Total		32,642,807	47,843,985	59,311,832
Total			35,719,300	63,697,900	93,586,054
Percentage of renewable electricity use		%	4.1	7.3	11.0

Biodiversity

► Forest-Derived Raw Materials

		Unit	2020	2021	2022
Amount of third-party certified forest-derived raw materials procured	Japan	Tons	128,393	117,606	155,378
	Overseas		262,869	273,667	299,731
	Total		391,262	391,273	455,109
Percentage of paper and pulp traceable to place of origin	Japan	%	99.1	100.0	100.0
	Overseas		92.2	96.0	95.7
	Total		94.3	97.0	97.1

Notes: Percentage of raw materials derived from forest resources for which traceability has been established to their place of origin (country and region), in addition to third-party certified materials
Forest-derived raw materials include pulp, tissue, separators, and airlaid pulp

► PEFC and CoC Certifications

	Unit	2020	2021	2022
Percentage of CoC-certified factories	%	50.0	52.0	56.0
Percentage of PEFC-certified pulp procured		—	76.0	🕒 72.3

► Palm Oil

	Unit	2020	2021	2022
Amount of palm oil procured	Tons	131.6	152.0	164.8
Amount of certified palm oil procured		113.1	117.3	119.0
Percentage of raw materials traceable to place of origin	%	85.9	77.2	72.2
Percentage of certified palm oil procured		85.9	77.2	🕒 72.2

► NO_x and SO_x Emissions (Japan)

	Unit	2020	2021	2022
NO _x	Tons	14.5	15.7	15.2
NO _x per unit	kg/million yen	0.050	0.056	0.053
SO _x	Tons	3.5	5.9	5.7
SO _x per unit	kg/million yen	0.012	0.021	0.020

► Polychlorinated Biphenyl (PCB) Storage Situation: None

► Pollutant Release and Transfer Register (PRTR) Substances (Japan)

	Unit	2020	2021	2022
Toluene	Tons/year	16.7	43.1	43.2
Ethylene oxide	kg/year	13.7	18.8	95.8
Dioxin	mg-TEQ/year	0.00002	0.08500	0.29000
Methylnaphthalene	Tons/year	—	0.1	0.1

► Ozone-Depleting Substances (Japan)

Substance	Business Site	Use	Unit	2022
Halon (Class 1)	Unicharm Products Shizuoka Factory	Fire retardant	Tons	1.6
	Unicharm Products Shikoku Factory (Kagawa)			0.07
	Unicharm (other development sites in Kagawa)			0.0001
HCFC (Class 1)	Unicharm Products Fukushima Factory	Refrigerant		2.6
	Unicharm Products Shizuoka Factory			3.6
	Unicharm Products Kyushu Factory (Fukuoka)			2.3
	Unicharm Products Shikoku Factory (Kagawa)			3.7
	Unicharm Kokko Nonwoven Co., Ltd. (Ehime/Kagawa)			0.65
	Unicharm Pet Care Co., Ltd. (Hyogo/Mie/Saitama)			0.93
	Peparlet Co., Ltd. (Shizuoka)			0.04
	Unicharm (other development sites in Kagawa)			0.86
CFC	Unicharm (other development sites in Kagawa)		0.001	

Note: Reported for Company properties based on the Act on Rational Use and Proper Management of Fluorocarbons

► Biochemical Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) (Japan)

	Unit	2020	2021	2022
BOD	Tons	18.2	23.0	14.4
COD		19.4	20.5	9.8

Water Resources

► Water Use (Water Intake)

	Unit	2020	2021	2022
Japan	Thousand m³	3,961	3,926	3,862
Overseas		1,088	1,045	1,018
Total		5,049	4,970	4,881
Water volume in areas with high water stress as a percentage of total water volume	%	11.5	11.3	12.0

► Water Use by Source (Water Intake) (Japan)

	Unit	2020	2021	2022
Surface water (rivers, lakes, and ponds)	Thousand m³	163	155	157
Groundwater		832	931	889
Other water sources		2,966	2,840	2,816
Of these, locations that have specified facilities under the Water Pollution Control Law				
Surface water (rivers, lakes, and ponds)	Thousand m³	5	7	6
Groundwater		440	471	497
Other water sources		2,966	2,840	2,816
Total		3,961	3,926	3,862

► Water Use by Source (Water Intake) (Overseas)

	Unit	2020	2021	2022
Surface water (rivers, lakes, and ponds)	Thousand m³	1,079	1,036	1,011
Groundwater		9	8	8
Other water sources		0	0	0
Of these, areas with high water stress				
Surface water (rivers, lakes, and ponds)	Thousand m³	583	562	583
Groundwater		0	0	0
Other water sources		0	0	0
Total		1,088	1,045	1,018

► Wastewater and Steam

	Unit	2020	2021	2022
Japan	Thousand m³	3,171	3,135	3,177
Overseas		1,080	1,035	1,012
Total		4,251	4,170	4,189