

Other Environment-related Data

1 Environmental Accounting (Domestic)

- Calculation standards are based on the Environmental Accounting Guidelines 2005
- Scope of organizations covered
 - Consolidated: Nippon Paper Industries; Nippon Paper Crecia; Crecia Kasuga; Nippon Paper Papyrus; GAC; Nippon Paper Sacks; Nippon Paper Ishinomaki Energy Center; N&E; Nippon Paper Development
 - Non-consolidated: Osakakako; Nippon Paper Liquid Package Product; Nichimoku Pallet; MANTSUNE PACKAGE; Seikosha Printing; Akita Jujo Chemicals
 - Affiliated company: Fukuda Paper MFG

Environmental Conservation Costs (FY2024)

(Millions of Yen)

Categories	Main contents	Investment	Cost
(1) Business area costs	—		
1. Pollution prevention costs	Ex) Measures against air pollution, water pollution, noise and vibration	1,558	13,366
2. Global environmental conservation costs	Ex) Cultivation of company-owned forests in Japan, overseas plantation business, energy-saving investment	4,123	586
3. Resource circulation costs	Ex) Efficient use of resources, cost of waste management	277	9,343
(2) Upstream/downstream costs	Expenses related to collection, recycling, and disposal of pallets and packing materials	—	3,122
(3) Administration costs	Ex) Costs for employee training, maintaining ISO 14001, analysis of air and water quality, and management of various conferences	—	348
(4) R&D costs	Ex) Product development that contributes to environmental conservation, such as promoting the use of wastepaper, and reduction of environmental impact at the manufacturing stage	—	4,260
(5) Social activity costs	Ex) Social contribution activities, support for organizations, corporate action report	—	44
(6) Environmental remediation costs	Pollution Health Compensation Levy	—	379
Total		5,958	31,448

Environmental Benefits of Environmental Conservation (FY2024) (Millions of Yen)

Effect	Amount
Income from company-owned forests in Japan	538
Reduced expenses from energy saved	3,364
Reduced disposal expenses through the effective use of waste	3,193
Gain on sales from the recycled waste	458
Reduced expenses through the recycling of shipping material	1,458
Total	9,011

Environmental conservation impacts (FY2024)

Categories	Environmental impact indicators	Results	YoY change	
Effects related to resources introduced to business activities	Overseas plantation business	Overseas plantation areas	69kha	Down 3kha
	Energy-saving measures	Fuel reduction (Heavy oil equivalent)	43,588kl	UP 2,025kl
Effects related to environmental impact and waste from business activities	Greenhouse gas emissions		4.24Mt	Down 0.11Mt
	Air pollutant emissions	NOx emissions (NO equivalent)	6,442t	UP 144t
		SOx emissions (SO ₂ equivalent)	1,784t	Down 609t
		Soot and dust emissions	840t	Down 101t
	Effluent		735Mt	UP 6Mt
	Water contaminant emissions	COD/BOD emissions	33,790t	UP 320t
		SS emissions	16,550t	Down 130t
	Final waste disposal		8kt	Down 1kt
Effects related to goods and services produced from business activities	Product recycling	Wastepaper utilization rate (paper)	29%	Down 2.2%
		Wastepaper utilization rate (paperboard)	85%	Down 3.1%
	Shipping material recycling	Pallet recovery rate	42%	Down 1%

Other Environment-related Data

2 Balance of Materials

Balance of Materials for All Businesses (Principal Materials) (3 years)

		Unit	FY2022*1	FY2023*1	FY2024*1
Input					
Energy Input	Purchased electricity	GWh	1,931	1,681	2,184
	Oil	Thousand kl	178	157	154
	Coal	Thousand t	1,192	1,156	1,304
	Gas	Thousand t	399	372	292
	Other fossil fuels	Thousand t	19	17	21
	Non-fossil fuels*2	Thousand t	5,268	5,103	6,667
	(Of which Black liquor)	Thousand t	3,995	3,496	3,550
Chemical substances subject to the PRTR system*3	Amount handled	t	10,840	29,700	29,324
Water intake (water consumption)	Total amount of water intake (water consumption)	Million t	899	863	874
	River water	Million t	660	639	650
	Industrial water	Million t	190	177	176
	Well water	Million t	48	46	46
	Public water supply	Million t	2	2	2
	Rainwater	Million t	0	0	0
	Seawater, sea, ocean	Million t	0	0	0
External wastewater	Million t	0	0	0	
Raw Material	Wood chips	Thousand BDt	5,640	5,226	5,191
	Logs	Thousand BDt	1,305	1,157	1,035
	Pulp	Thousand ADt	670	604	660
	Wastepaper (Pulp)	Thousand ADt	3,335	3,260	3,467
	Base Paper	Thousand ADt	136	163	153
	Others	Thousand ADt	103	107	102

*1 Covered: FY2022 https://www.nipponpapergroup.com/english/csr/npg_esgdb2023_e_contents.pdf
 FY2023 https://www.nipponpapergroup.com/english/csr/npg_esgdb2024_e_contents.pdf
 FY2024 https://www.nipponpapergroup.com/english/csr/npg_esgdb2025_e_contents.pdf

*2 Biomass fuels (including black liquor) and waste fuels

*3 Japan only, including unintentionally generated substances. Dioxins are not included in total data.

*4 Coverage: Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papyrus

*5 Only in Japan, Aggregated by specially controlled industrial waste

[Units] GWh = Gigawatt hours, BDt = Bone-dry tonnes, ADt = Air-dry tonnes Note: t indicates Tonnes(also called Metric Tons)

		Unit	FY2022*1	FY2023*1	FY2024*1
Output					
Gas Emissions	GHG emissions (Scope 1 and 2)	Million t-CO ₂	5.95	5.30	5.04
	(Scope 1)	Million t-CO ₂	4.86	4.40	4.10
	(Scope 2)	Million t-CO ₂	1.09	0.90	0.94
	Emissions by type of greenhouse gas (Scope 1)				
	CO ₂	Million t-CO ₂	4.43	4.22	3.95
	CH ₄	Million t-CO ₂	0.03	0.01	0.01
	N ₂ O	Million t-CO ₂	0.40	0.17	0.14
	SOx emissions	Thousand t	3.41	2.84	2.06
	NOx emissions	Thousand t	8.15	8.16	9.04
	Soot and dust	Thousand t	1.11	1.03	0.95
Chemical substances subject to the PRTR system*3	Amount released	t	131	2,290	195
	Amount transferred	t	89	141	160
VOCs (volatile organic compounds)*4	Emissions	t	97	93	90
Wastewater	Wastewater total	Million t	859	828	840
	Public water	Million t	849	818	830
	Sewerage	Million t	10	9	9
	COD/BOD	Thousand t	48	43	43
	BOD	Thousand t	9	8	9
	COD	Thousand t	39	35	35
	SS	Thousand t	25	22	22
	Nitrogen	Thousand t	1.2	1.2	1.5
	Phosphorous	Thousand t	0.2	0.2	0.4
	Total Waste Generated	Thousand BDt	743	735	771
Waste	Final disposal subtotal	Thousand BDt	102	92	91
	Recycled subtotal	Thousand BDt	585	643	680
	Hazardous waste generation*5	BDt	4,484	11,236	8,075
Products manufactured	Paper, Household Paper	Million t	3.8	3.2	3.3
	Paperboard	Million t	2.2	2.0	2.6
	Pulp	Thousand t	283	325	271
	Paper container	Thousand t	83	83	78
	Chemical products	Thousand t	92	100	82
	Building materials+others	Thousand t	214	207	182
Electricity	Electricity	GWh	2,241	2,603	2,615

Other Environment-related Data

Balance of Materials in the Pulp and Paper Businesses in Japan (Principal Materials) (3 years)

		Unit	FY2022*1	FY2023*1	FY2024*1
Input					
Energy Input	Purchased electricity	GWh	765	618	1,054
	Oil	Thousand kl	173	151	151
	Coal	Thousand t	1,166	1,127	1,047
	Gas	Thousand t	137	126	113
	Other fossil fuels	Thousand t	19	17	21
	Non-fossil fuels*2	Thousand t	3,804	3,535	4,300
	(Of which Black liquor)	Thousand t	2,737	2,481	2,570
Chemical substances subject to the PRTR system*3	Amount handled	t	490	17,246	18,052
Water intake (water consumption)	Amount of water intake	Million t	709	662	668
	Water intensity	t/product-t	158	163	166
Raw Material	Wood chips	Thousand BDt	3,745	3,383	3,517
	Logs	Thousand BDt	14	8	8
	Pulp	Thousand ADt	480	439	491
	Wastepaper (Pulp)	Thousand ADt	2,324	2,134	2,269
	Base Paper	Thousand ADt	98	99	93
	Others	Thousand ADt	16	15	21

*1 Coverage : FY2022 Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papylia, Crecia Kasuga, Fukuda Paper MFG
 FY2023 Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papylia, Crecia Kasuga, Fukuda Paper MFG
 FY2024 Nippon Paper Industries, Nippon Paper Crecia, Nippon Paper Papylia, Crecia Kasuga, Fukuda Paper MFG

*2 Biomass fuels (including black liquor) and waste fuels

*3 Including unintentionally generated. Dioxins are not included in total data. Excludes Chemical Business

[Units] GWh = Gigawatt hours, BDt = Bone-dry tonnes, ADt = Air-dry tonnes Note: t indicates Tonnes(also called Metric Tons)

		Unit	FY2022*1	FY2023*1	FY2024*1
Output					
Gas Emissions	GHG emissions (Scope 1 and 2)	Million t-CO ₂	4.80	4.29	4.18
	(Scope 1)	Million t-CO ₂	4.24	3.83	3.67
	(Scope 2)	Million t-CO ₂	0.56	0.46	0.51
	GHG emissions intensity during production	t-CO ₂ /product-t	1.07	1.05	1.04
	Emissions by type of greenhouse gas (Scope 1)				
	CO ₂	Million t-CO ₂	3.81	3.65	3.52
	CH ₄	Million t-CO ₂	0.03	0.01	0.01
	N ₂ O	Million t-CO ₂	0.40	0.17	0.14
	SOx emissions	Thousand t	2.3	1.8	1.5
	NOx emissions	Thousand t	5.8	5.3	5.4
Chemical substances subject to the PRTR system*3	Amount released	t	90	2,223	241
	Amount transferred	t	90	19	37
VOCs (volatile organic compounds)	Emissions	t	60	50	69
Wastewater	Wastewater total	Million t	671	636	644
	Public water	Million t	669	634	638
	Sewerage	Million t	2	2	6
	COD/BOD	Thousand t	28	26	26
	SS	Thousand t	15	13	13
	Nitrogen	Thousand t	1.1	1.0	1.3
	Phosphorous	Thousand t	0.1	0.1	0.4
Waste	Total Waste Generated	Thousand BDt	494	468	466
	Final disposal subtotal	Thousand BDt	8	8	8
	Recycled subtotal	Thousand BDt	484	460	458
Products manufactured	Paper, Household Paper	Million t	2.8	2.5	2.4
	Paperboard	Million t	1.5	1.5	1.5
	Pulp	Thousand t	158	122	125