

Environmental Data

Domestic Environmental Impacts (FY 2015)

Business segment	Number of sites	Production volume	GHG	Water intake amount	Industrial waste		Impact on water			Impact on atmosphere		
			Emission amount (CO ₂ eq.)		Generation amount	Final disposal amount	BOD	CODMn	SS	SO _x (SO ₂ eq.)	NO _x (NO ₂ eq.)	Smoke dust
		1000t	1000t	1000m ³	ADt	ADt	t	t	t	t	t	t
Industrial materials	115	5,247	2,836	192,505	623,368	2,832	2,612	3,916	2,449	2,256	3,018	126
Household and consumer products	4	188	46	4,392	13,095	9	(*1)	290	55	68	18	2
Functional materials	24	490	526	55,827	98,621	267	1,376	188	810	1,004	438	102
Forest resources and environment marketing	20	857	191	10,118	15,484	3,494	104	55	68	53	161	6
Printing and communication media	8	3,056	2,596	347,503	761,349	38,208	837	17,914	9,338	3,173	5,713	232
Shared services and others	33	31	22	613	5,015	127	15	(*1)	5	12	2	<1
Total (consolidated companies)	204	9,869	6,217	610,958	1,516,932	44,937	4,944	22,362	12,725	6,567	9,351	468

Overseas Environmental Impacts (2015)

Business segment	Number of sites	Production volume	GHG	Water intake amount	Industrial waste		Impact on water			Impact on atmosphere		
			Emission amount (CO ₂ eq.)		Generation amount	Final disposal amount	BOD	CODCr	SS	SO _x (SO ₂ eq.)	NO _x (NO ₂ eq.)	Smoke dust
		1000t	1000t	1000m ³	ADt	ADt	t	t	t	t	t	t
Industrial materials	25	889	264	4,146	117,533	16,639	45	427	60	18	25	43
Household and consumer products	1	9	15	195	281	1	(*1)	21	1	<1	2	<1
Functional materials	5	302	147	5,437	25,804	2,342	110	20	23	1	67	1
Forest resources and environment marketing	5	2,634	273	59,011	714,640	29,992	1,887	11,308	510	36	0	1,697
Printing and communication media	1	437	383	15,828	75,233	115	38	645	114	107	449	7
Others	12	1,161	435	54,872	268,319	61,281	947	(*1)	1,414	(*1)	722	724
Total (consolidated companies)	49	5,432	1,517	139,489	1,201,810	110,370	3,027	12,422	2,122	162	1,266	2,472

- The production volume includes internal transactions.
 - GHG emissions were calculated on the following conditions.
 - (1) Emission factors came from the public data below.
 [Domestic] "Act on the Rational Use of Energy" and "Act on Promotion of Global Warming Countermeasures"
 [Overseas] Greenhouse Gas Protocol "Emission Factors from Cross-Sector Tools"
 - (2) Emissions from transportation were excluded.
 - Each impact on water and atmosphere is the sum of emissions from worksites or equipment subjected to regulations.
- *1 There are no worksites subjected to regulations in the segment.

Environmental Data

Domestic Environmental Accounting (FY 2015)

(¥ million)

Environmental conservation cost					
Category		Main initiatives	Investment	Cost	
1	Breakdown	Environmental conservation cost to control environmental impacts which result from key business operations within the business area	4,711	19,106	
		(1) Pollution prevention cost	965	11,422	
		(2) Global environmental conservation cost	2,832	371	
		(3) Resource circulation cost	914	7,313	
2		Environmental conservation cost to control environmental impacts which result from key business operations upstream or downstream	Purchasing low-sulfur fuel (balance amount)	0	246
3		Environmental conservation cost stemming from administrative activities	Employee education, ISO 14001, air and water analysis, operating committees, etc.	0	863
4		Environmental conservation cost stemming from R&D activities	Promoting utilization of recovered paper, curbing environmental impact during production, etc.	227	2,121
5		Environmental conservation cost stemming from social activities	Philanthropic programs, support for environment groups, Eco-products exhibit, etc.	0	64
6		Cost incurred for dealing with environmental degradation	Pollution impact levy (SO _x)	0	503
Total			4,938	22,903	

Economic benefit associated with environmental conservation activities	
Details of benefit	Amount
Income from company-owned forests in Japan	283
Cost reductions through energy conservation	2,481
Income from recycling	2,745
Total	5,509

- The data was aggregated in accordance with "Environmental Accounting Guideline (2005)" published by the Ministry of the Environment.
- Companies covered: Oji Holdings, Oji Materia, Oji Container, Morishigyo Group's main companies, Oji Nepia, Oji F-Text, Oji Imaging Media, Oji Tac, Oji Green Resources, Oji Forest & Products, Oji Cornstarch, and Oji Paper

Environmental Data

Domestic Release and Transfer of PRTR Chemical Substances (FY 2015)

Substance	Unit	Amount handled (including amount generated)	Released amount	Transferred amount	Total (released and transferred)
Zinc compounds (water-soluble)	t	7.7	0.2	0.8	1.0
n-Butyl acrylate	t	7.5	0.6	0.2	0.9
2-Aminoethanol	t	15.0	0.001	0.2	0.2
Asbestos *	t	11.1	-	11.1	11.1
Isoprene	t	11.1	0.1	-	0.1
Ethylbenzene	t	4.6	0.02	0.1	0.1
Ethylene oxide	t	1.2	0.01	-	0.01
Ferric chloride	t	95.0	-	-	-
Xylene	t	233.8	0.6	0.6	1.2
Chromium and chromium(III) compounds	t	26.3	0.01	0.001	0.01
Chloroform	t	12.6	12.5	-	12.5
Vinyl acetate	t	442.8	1.0	0.5	1.5
Cyclohexylamine	t	1.7	1.6	-	1.6
2,2-Dibromo-2-cyanoacetamide	t	54.4	23.8	0.3	24.1
Styrene	t	99.5	0.01	0.2	0.2
Dioxins	g-TEQ	1.1	0.3	0.8	1.1
Decanoic acid	t	10.9	0.3	-	0.3
Sodium dodecyl sulfate	t	4.5	2.7	-	2.7
1,2,4-Trimethylbenzene	t	41.5	0.2	0.01	0.2
Toluene	t	2966.1	499.7	206.0	705.6
Hexamethylene diacrylate	t	2.2	-	-	-
Nickel	t	24.5	0.02	0.1	0.1
Phenol	t	6.1	0.01	0.2	0.3
Hydrogen fluoride and its water-soluble salts	t	4.4	4.4	-	4.4
1-Bromopropane	t	1.9	1.7	0.2	1.9
n-Hexane	t	199.8	1.5	0.5	1.9
Benzene	t	89.9	9.2	-	9.2
Boron compounds	t	191.6	14.9	2.8	17.7
Poly(oxyethylene) alkyl ether (alkyl C=12-15)	t	6.5	3.4	0.02	3.5
Sodium poly(oxyethylene) dodecyl ether sulfate	t	6.0	3.6	-	3.6
Formaldehyde	t	1.6	0.8	0.04	0.8
Manganese and its compounds	t	7.8	6.5	-	6.5
Methylnaphthalene	t	293.0	1.5	-	1.5
Methylenebis(4,1-phenylene) diisocyanate	t	1.9	-	0.2	0.2
Total	t	4884	591	224	815

- The data covers the Oji Group facilities that submit PRTR notification.
- Excluding dioxins, figures are prepared for substances of which one ton or more (0.5 tons or more for Specific Class I Designated Chemical Substances) is handled (including amount generated).
- Hyphen indicates "not released" and/or "not transferred".
- Total is rounded off to the nearest whole number.
- * Asbestos is transferred due to dismantling of facilities and equipments containing it.