

## CSR Report 2012: Detailed Data

### ■ Editorial Policy for this CSR Report 2012: Detailed Data

This PDF discloses detailed data not presented in the *Toppan CSR Report 2012*.

The CSR report is edited in line with the seven core subjects set under ISO 26000, a guidance standard on social responsibility. In this *Detailed Data*, Toppan also uses the core subjects as its main titles.

### ■ Scope and Boundary of this PDF

The data on Labor Practices covers Toppan Printing Co., Ltd. only. The scope of the environmental performance data is presented in the table below, which shows indicators assured by an independent assurance provider.

### ■ Reliability

KPMG AZSA Sustainability Co., Ltd. provides independent assurance for this PDF, along with the *Toppan CSR Report 2012*. The following presents the environmental performance indicators in this *Detailed Data* assured by the independent assurance provider.

### Environmental Performance Indicators Assured by an Independent Assurance Provider

#### Scope of the Environmental Performance Data

- ① Toppan Printing Co., Ltd. ("the Company")
- ② 20 domestic manufacturing subsidiaries within the scope of the Company's environmental targets
- ③ 20 domestic subsidiaries outside the scope of the Company's environmental targets
- ④ 28 overseas subsidiaries

Pages	Category	Data	Indicator Assured by an Independent Assurance Provider	Companies	Scope	
PP. 2-3	Toppan's Environmental Burden	INPUT/OUTPUT Data by Business Field for Domestic Sites (within the scope of the environmental targets)	✓	21	①, ②	
		INPUT/OUTPUT Data by Business Field for Domestic Sites (outside the scope of the environmental targets)	✓	20	③	
		INPUT/OUTPUT Data by Business Field for Overseas Sites (outside the scope of the environmental targets)	✓	28	④	
P. 4	Environmental Management Activities	ISO 14001 Certificates Obtained at Toppan Printing Co., Ltd. and Manufacturing Subsidiaries (within the scope of the environmental targets)	—	21	①, ②	
		ISO 14001 Certificates Obtained at Domestic Subsidiaries (outside the scope of the environmental targets)	—	20	③	
		ISO 14001 Certificates Obtained at Overseas Subsidiaries (outside the scope of the environmental targets)	—	28	④	
P. 5	Eco-protection Activities	Mitigating Global Warming	Mitigation of Global Warming through the Development of Energy-saving Measures	—	21	①, ②
			Ratios by Energy Type (in terms of caloric value)	✓	21	①, ②
			Electricity Consumption	✓	21	①, ②
			Natural Gas Consumption	✓	21	①, ②
			Fuel Efficiency of Company-owned Vehicles	✓	1	Toppan Logistics Co., Ltd.
P. 6	Building a Recycling-oriented Society	Promotion of Waste Reduction and Recycling	—	21	①, ②	
		Zero-emission Sites (TZERO-11)	—	21	①, ②	
P. 7	Preventing Pollution / Controlling Chemical Substances	PRTR Results	✓	21	①, ②	
		Ratios of Greenhouse Gas Emissions by Type (in tons of CO <sub>2</sub> equivalent)	✓	21	①, ②	
		Ratios of Greenhouse Gas Emissions by Source (in tons of CO <sub>2</sub> equivalent)	✓	21	①, ②	
P. 7	Promoting the Conservation of Biodiversity	ECO-GREEN Purchasing* <sup>1</sup>	✓	21	①, ②	
		Eco-creativity Activities	List of Environmentally Friendly Products* <sup>1</sup>	—	21	①, ②
P. 9	Environmental Accounting	Capital Investment for Environmental Conservation	✓	61	—	
		Environmental Conservation Benefit	✓	69	①-④	
	Green Procurement and Green Purchasing	Green Procurement Standards for Paper and Levels of Fulfillment	✓	12 suppliers	—	
		Green Procurement Standards for Ink and Levels of Fulfillment	✓	4 suppliers	—	
		In-house Green Purchasing Standards and Levels of Fulfillment* <sup>1</sup>	✓	21	①, ②	

\*<sup>1</sup> Covers operational site data that make up significant portions of the totals.

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## Labor Practices

### Results in Human Asset Development

	Funds Spent on Training, etc. per Employee*1	Usage Rates of Toppan Training Centers*2	
		Kawaguchi	Yugawara
Fiscal 2009	41,789 yen	49.9%	—
Fiscal 2010	35,471 yen	54.8%	—
Fiscal 2011	66,787 yen	55.2%	43.4%

\*1 In fiscal 2011, Toppan established a new training center in Yugawara, Kanagawa Prefecture and renovated its existing training center in Kawaguchi, Saitama Prefecture.

\*2 Number of days the training centers were used in a year (including use by subsidiaries and affiliated companies).

### Retention Rates for Recruits

(Percentage of fiscal 2009 hires still working at Toppan)

	Male	Female
Hired on April 1, 2009	291	121
Still with Toppan as of April 1, 2012	271	110
Retention rate	93%	91%
Average for males and females	92%	
Percentage who leave the Company before working three years	8%	

## The Environment

### Toppan's Environmental Burden\*3

INPUT/OUTPUT Data by Business Field for Domestic Sites (within the scope of the environmental targets)

Category	Chief Component	Information & Networks	Living Environment	Electronics	Non-production Sites	Total			
INPUT	Material	Total input (tons)	865,309	543,146	37,264	—	1,445,719		
		Papers (tons)	844,999	341,161	241	—	1,186,401		
		Plastic (tons)	2,740	135,674	4,099	—	142,513		
		Glass (tons)	6	13	9,496	—	9,515		
		Ink, solvent (tons)	15,662	57,678	2,793	—	76,133		
		Other (tons)	1,902	8,620	20,635	—	31,157		
	Energy	Total energy consumption (1,000 GJ)	4,044	5,337	5,848	667	15,896		
		Primary energy [fuel] (1,000 GJ)	1,466	1,566	787	113	3,932		
		Secondary energy [electricity, steam] (1,000 GJ)	2,578	3,771	5,061	554	11,964		
	Water	Water consumption (1,000 m <sup>3</sup> )	1,002	1,795	10,762	416	13,975		
		Industrial water (1,000 m <sup>3</sup> )	352	448	244	25	1,069		
		Municipal water (1,000 m <sup>3</sup> )	388	644	54	378	1,464		
		Groundwater (1,000 m <sup>3</sup> )	260	703	10,464	0	11,427		
		Rainwater used (1,000 m <sup>3</sup> )	2	0	0	13	15		
		Use of water circulated on premises (1,000 m <sup>3</sup> )	6	19	5,466	0	5,491		
	Chemical substances	Handling of chemical substances designated under the PRTR law (tons)	955	2,827	3,416	5	7,203		
	OUTPUT	Atmosphere	CO <sub>2</sub> emission (t-CO <sub>2</sub> )	174,669	255,493	237,692	27,129	694,983	
			Emission of ozone-depleting substances (ODP-kg)	0	88	0	0	88	
			NOx emission (kg)	17,378	88,681	19,826	1,274	127,159	
SOx emission (kg)			18	14,557	12,731	0	27,306		
Emission of dioxins (mg-TEQ)			4	8	0	0	12		
Release of chemical substances designated under the PRTR law (tons)			56	267	16	1	340		
VOC emission into the atmosphere*4			703	4,086	96	—	4,885		
Water and soil environments	Water and soil environments	Total effluent discharge (1,000 m <sup>3</sup> )	685	1,377	10,133	388	12,583		
		Public water system (1,000 m <sup>3</sup> )	11	916	9,573	0	10,500		
		Sewage system (1,000 m <sup>3</sup> )	674	461	560	388	2,083		
		BOD (kg)	11	3,301	50,319	0	53,631		
		COD (kg)	0	1,985	8,267	0	10,252		
		Nitrogen discharge (kg)	0	9,223	16,343	0	25,566		
		Phosphorous discharge (kg)	0	875	549	0	1,424		
		Release of chemical substances designated under the PRTR law (tons)	0.0	0.0	0.7	0.0	0.7		
		Waste	Waste	Total discharge (tons)	134,060	101,522	28,612	3,456	267,650
				Recycled (tons)	133,775	100,632	28,524	3,155	266,086
Final landfill waste disposal (tons)	25			530	24	54	633		

\*3 Energy consumption associated with fuel consumption is calculated using the conversion factor specified in the year 2000 amendment of the Act on the Rational Use of Energy of Japan. The primary energy input associated with electricity consumption is calculated uniformly as 0.00983 GJ/kWh. CO<sub>2</sub> emissions are calculated by the method specified in the Guidelines for Calculating Greenhouse Gas Emissions from Businesses (2003) from the Ministry of the Environment of Japan. CO<sub>2</sub> emissions associated with electricity consumption are calculated uniformly as 0.378 t-CO<sub>2</sub>/MWh. CO<sub>2</sub> emissions associated with electricity consumption at overseas sites, however, are calculated based on the CO<sub>2</sub> emission conversion factors (applied to specific countries for 2000) published by the Greenhouse Gas Protocol Initiative. The total discharge of waste includes industrial waste of no value and materials of value sold or transferred as resources (both generated in association with business activities).

\*4 Emissions into the atmosphere are calculated in conformance with the standards established by the Japan Federation of Printing Industries (JFPI) and the Japan Electronics and Information Technology Industries Association (JEITA).

**INPUT/OUTPUT Data by Business Field for Domestic Sites (outside the scope of the environmental targets)**

Category	Chief Component	Information & Networks	Living Environment	Electronics	Non-production Sites	Total	
INPUT	Material	Total input (tons)	471,505	38,550	1,114	—	511,169
		Papers (tons)	459,093	6,185	25	—	465,303
		Plastic (tons)	2,192	31,098	234	—	33,524
		Glass (tons)	1	1	217	—	219
		Ink, solvent (tons)	6,458	1,035	33	—	7,526
		Other (tons)	3,761	231	605	—	4,597
	Energy	Total energy consumption (1,000 GJ)	2,308	751	499	0	3,558
		Primary energy [fuel] (1,000 GJ)	226	83	69	0	378
		Secondary energy [electricity, steam] (1,000 GJ)	2,082	668	430	0	3,180
	Water	Water consumption (1,000 m <sup>3</sup> )	1,424	89	937	0	2,450
		Industrial water (1,000 m <sup>3</sup> )	64	0	0	0	64
		Municipal water (1,000 m <sup>3</sup> )	248	89	17	0	354
		Groundwater (1,000 m <sup>3</sup> )	1,102	0	920	0	2,022
		Rainwater used (1,000 m <sup>3</sup> )	10	0	0	0	10
		Use of water circulated on premises (1,000 m <sup>3</sup> )	0	0	22	0	22
	Chemical substances	Handling of chemical substances designated under the PRTR law (tons)	0	51	82	0	133
	OUTPUT	Atmosphere	CO <sub>2</sub> emission (t-CO <sub>2</sub> )	92,342	30,021	21,302	0
Emission of ozone-depleting substances (ODP-kg)			0	0	0	0	0
NOx emission (kg)			23,512	540	3,603	0	27,655
SOx emission (kg)			14	0	2,161	0	2,175
Emission of dioxins (mg-TEQ)			0	0	0	0	0
Release of chemical substances designated under the PRTR law (tons)			0	2	0	0	2
VOC emission into the atmosphere (tons)			422	819	4	0	1,245
Water and soil environments		Total effluent discharge (1,000 m <sup>3</sup> )	1,023	63	822	0	1,908
		Public water system (1,000 m <sup>3</sup> )	787	38	819	0	1,644
		Sewage system (1,000 m <sup>3</sup> )	236	25	3	0	264
		BOD (kg)	575	111	4,998	0	5,684
		COD (kg)	1,634	0	0	0	1,634
		Nitrogen discharge (kg)	407	0	0	0	407
		Phosphorous discharge (kg)	51	0	0	0	51
Waste		Release of chemical substances designated under the PRTR law (kg)	0	0	1	0	1
		Total discharge (tons)	120,234	11,646	1,448	0	133,328
		Recycled (tons)	118,232	11,198	1,198	0	130,628
	Final landfill waste disposal (tons)	164	15	0	0	179	

**INPUT/OUTPUT Data by Business Field for Overseas Sites (outside the scope of the environmental targets)**

Category	Chief Component	Information & Networks	Living Environment	Electronics	Non-production Sites	Total	
INPUT	Energy	Total energy consumption (1,000 GJ)	1,435	715	2,882	—	5,032
		Primary energy [fuel] (1,000 GJ)	210	298	113	—	621
		Secondary energy [electricity, steam] (1,000 GJ)	1,225	417	2,769	—	4,411
	Water	Water consumption (1,000 m <sup>3</sup> )	1,356	134	2,120	—	3,610
		Municipal water (1,000 m <sup>3</sup> )	1,220	84	2,050	—	3,354
		Groundwater (1,000 m <sup>3</sup> )	136	50	70	—	256
	Rainwater (1,000 m <sup>3</sup> )	0	0	0	—	0	
OUTPUT	Atmosphere	CO <sub>2</sub> emission (t-CO <sub>2</sub> )	108,353	45,969	207,473	—	361,795
		Emission of ozone-depleting substances (ODP-kg)	21	0	47	—	68
		NOx emission (kg)	7,096	9,574	1,727	—	18,397
		SOx emission (kg)	174	192	24	—	390
	Water and soil environments	Total effluent discharge (1,000 m <sup>3</sup> )	1,247	72	1,564	—	2,883
		Public water system (1,000 m <sup>3</sup> )	105	2	172	—	279
		Sewage system (1,000 m <sup>3</sup> )	1,142	70	1,392	—	2,604
		BOD (kg)	112	39	509	—	660
		COD (kg)	3,940	126	736	—	4,802
		Nitrogen discharge (kg)	984	0	200	—	1,184
		Phosphorous discharge (kg)	0	0	40	—	40
Waste	Total discharge (tons)	61,929	9,537	3,936	—	75,402	
	Recycled (tons)	59,961	6,837	3,592	—	70,390	
	Final landfill waste disposal (tons)	1,909	2,473	329	—	4,711	

## Environmental Management Activities

### ISO 14001 Certification (80 systems at 131 operational sites, as of March 31, 2012)

■ ISO 14001 Certificates Obtained at Toppan Printing Co., Ltd. and Manufacturing Subsidiaries (within the scope of the environmental targets)

Operational Site (Division or Manufacturing Subsidiary)	Registrar	Registration Date
Shiga Plant (Toppan Electronics Products Co., Ltd.)	JQA	Jul. 1998
Kumamoto Plant (Toppan Electronics Products Co., Ltd.)	JQA	Nov. 1998
Toppan Cosmo, Inc. [Kashiwa Plant and Satte Plant of Toppan Decor Products Inc.]	JQA	Mar. 2000
Niigata Plant (Toppan Electronics Products Co., Ltd.) Niigata Plant (NEC Toppan Circuit Solutions, Inc.)	JQA	Apr. 2000
Toyama Plant [including Manufacturing Department 3 and the Inspection Department] (NEC Toppan Circuit Solutions, Inc.)	JQA	Aug. 2000
Toppan Group Sakado Site	JQA	Oct. 2000
Ranzan Plant (Toppan Communication Products Co., Ltd.)	JQA	Nov. 2000
Akihabara Office (Living Environment Division)	JQA	Mar. 2001
Toppan Group Itabashi Site [including the Azusawa Site of Toppan Joho Kako Co., Ltd.]	JQA	Feb. 2002
Fukusaki Plant (Toppan Packaging Products Co., Ltd.) [including Toppan Packs Co., Ltd. and the Wakayama Plant of Toppan Plastic Co., Ltd.]	JQA	Jul. 2002
Toppan Group Kawaguchi Site	JQA	Aug. 2002
Takino Plants (Information and Communication Division, Living Environment Division)	JQA	Oct. 2002
Nishigaoka Site [including Kawaguchi transport department] (Toppan Logistics Co., Ltd.)	JQA	Oct. 2002
Gunma Plant (Toppan Packaging Products Co., Ltd.)	JQA	Jul. 2003
Asaka Plant (Toppan Printing Co., Ltd.)	JQA	Dec. 2003
Mito Plant (Toppan Prosprint Co., Ltd.)	JSA	Jan. 2004
Saitama Plant, Miyagi Plant, Sano Plant (Toppan Containers Co., Ltd.)	JQA	Apr. 2004
Chugoku & Shikoku Subdivision [including the Fukuyama Plant of Toppan Joho Kako Co., Ltd. and the Hiroshima Office]	SAI GLOBAL	Oct. 2004
Nishinohon Division [including Ebie Site, Oyodo Plant, TGC Nakanoshima Site]	JQA	Nov. 2004
Higashinohon Division	JQA	Mar. 2005
Koto Plant (Toppan Prosprint Co., Ltd.)	JQA	Mar. 2005
Technical Research Institute	JQA	May 2005
Sapporo Plant, Chitose Plant (Hokkaido Division)	JSA	Jun. 2005
Mie Site (Electronics Division)	JQA	Jan. 2006
Satte Plant [including Koshigaya Plant] (Toppan Plastic Co., Ltd.)	SAI GLOBAL	Dec. 2006
Ranzan Plant, Kyushu Plant (Toppan Packaging Service Co., Ltd.)	JQA	Feb. 2007
Sagamihara Plant (Toppan Packaging Products Co., Ltd.)	SAI GLOBAL	Mar. 2007
Saga Plant (Toppan Plastic Co., Ltd.)	SAI GLOBAL	Nov. 2007
Fukuoka Plant (Toppan Packaging Products Co., Ltd.)	SAI GLOBAL	Oct. 2008
Head office, Kanto branch, Kansai branch, Atsugi site (Toppan Techno Co., Ltd.)	SAI GLOBAL	Mar. 2009
Sodegaura Beverage Plant (Toppan Packaging Service Co., Ltd.)	SAI GLOBAL	Apr. 2009
Fukuoka Plant (Toppan Communication Products Co., Ltd.)	SAI GLOBAL	Oct. 2009
Fukaya Plant [including Satte Site] (Toppan Functional Products Co., Ltd.)	JQA	Mar. 2010
Nagoya Plant (Chubu Division of Toppan Printing Co., Ltd.)	JQA	Dec. 2010
Mikkabi Site (Toppan Packs Co., Ltd.)	SAI GLOBAL	Dec. 2010
Toppan Printing Co., Ltd. site (Green Front Sakai)	BUREAU VERITAS	Mar. 2011
Tamana Plant (Toppan Packs Co., Ltd.)	MSA	Mar. 2012
Matsuzaka Plant (Toppan Packaging Products Co., Ltd.)	JQA	Mar. 2012

■ ISO 14001 Certificates Obtained at Domestic Subsidiaries (outside the scope of the environmental targets)

Operational Site (Group Company)	Registrar	Registration Date
Total Media Development Institute Co., Ltd.	JSA	Mar. 2001
Takiyama Plant (Toppan Forms Central Products Co., Ltd.)	JQA	Jun. 2001
Head office, head office plant, Saitama Plant (Livretex Co., Ltd.)	JCQA	Jul. 2001
Fukushima Plant, Takino Plant (Toppan TDK Label Co., Ltd.)	JQA	Nov. 2001
All operational sites [including Tosho Bookbinding Co., Ltd.] (Tosho Printing Co., Ltd.)	JQA	May 2003
Fussa Plant (Toppan Forms Central Products Co., Ltd.)	JQA	Feb. 2004
R&D Center (Toppan Forms Co., Ltd.)	JQA	Mar. 2004
Toppan Forms Tokai Co., Ltd.	JQA	Aug. 2004
Toppan Forms Nishinohon Co., Ltd.	JQA	Jan. 2005
Sagamihara Plant, Kita Plant, Nishi Plant, Nishi Warehouse (Toppan TDK Label Co., Ltd.)	JCQA	Jan. 2005
Head office, Plate-making Center, Kobe Plant, Kyoto Plant (Kansai Tosho Printing Co., Ltd.)	JQA	Jun. 2005
Hino Plant (Toppan Media Printec Tokyo Co., Ltd.)	JSA	Nov. 2005
Kawamoto Plant (Toppan Forms Central Products Co., Ltd.)	JQA	Aug. 2006
Toppan Forms Kansai Co., Ltd.	JQA	Apr. 2007
Ortus Technology Kochi Co., Ltd.	JQA	Feb. 2008
Zama Plant (Toppan Media Printec Tokyo Co., Ltd.)	JACO	Sep. 2009
Toppan Forms (Sanyo) Co., Ltd.	JQA	Oct. 2009
Tokyo Logistics Co., Ltd.	JIA-QA	Aug. 2010
Gunma Plant (Tamapoly Co., Ltd.)	JQA	Feb. 2011
Joto Center (Toppan Forms Central Products Co., Ltd.)	JQA	Sep. 2011
Mita Plant (Tamapoly Co., Ltd.)	JQA	Jan. 2012

■ ISO 14001 Certificates Obtained at Overseas Subsidiaries (outside the scope of the environmental targets)

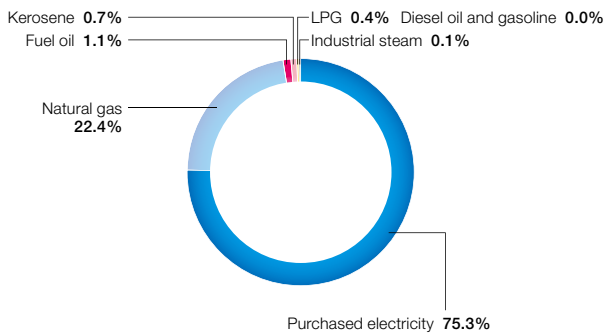
Group Company	Registrar	Registration Date
Toppan Photomasks France SAS	LRQA	Oct. 2000
Toppan Photomasks, Inc. (Santa Clara, Round Rock)	LRQA	Nov. 2001
Siam Toppan Packaging Co., Ltd.	MASCI	Apr. 2002
Toppan Printing Co., (H.K.) Ltd.	DNV	May 2002
Toppan Chunghwa Electronics Co., Ltd.	SGS	Oct. 2003
Toppan Printing Co., (Shenzhen) Ltd.	SSCC	Dec. 2003
Toppan Photomasks Germany GmbH	LRQA	Oct. 2004
Toppan CFI (Taiwan) Co., Ltd.	SGS	Nov. 2004
P.T. Toppan Printing Indonesia	LRQA	Nov. 2004
Toppan Photomasks Co., Ltd. Shanghai Toppan Photomasks Korea Limited	LRQA	Feb. 2005
Toppan SMIC Electronics (Shanghai) Co., Ltd.	BSI	Feb. 2007
Toppan Leefung Printing (Shanghai) Co., Ltd.	CCCI	Apr. 2007
Toppan Yau Yue Paper Products (Shenzhen) Co., Ltd.	SGS	Nov. 2007
Shanghai Toppan Printing Co., Ltd.	NQA	Jul. 2008
Toppan Yau Yue Paper Products (Dongguan) Co., Ltd.	MIC	Jan. 2009
Toppan Leefung Printing Limited (H.K.) Toppan Leefung Packaging & Printing (Dongguan) Co., Ltd.	CNAS	Mar. 2009
Toppan Excel Printing (Guangzhou) Co., Ltd.	CTC	May 2009
Beijing Nippo Printing Co., Ltd.	SGS	Sep. 2009
Toppan Leefung Changcheng Printing (Beijing) Co., Ltd.	ZDHY	Nov. 2009
Toppan Security Printing Pte. Ltd.	TUV	Aug. 2010
Kaohsiung branch of Toppan CFI (Taiwan) Co., Ltd.	SGS	Nov. 2010

## Mitigating Global Warming

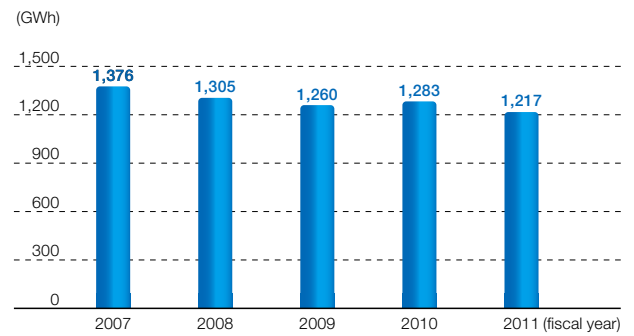
### Mitigation of Global Warming through the Development of Energy-saving Measures

	Main Measure in Fiscal 2011	Reduction Result (t-CO <sub>2</sub> /year)	Main Plan for Fiscal 2012	Reduction Target (t-CO <sub>2</sub> /year)
Information & Networks	Itabashi: Applied inverter control for pumps Ranzan: Replaced existing boilers with high-efficiency alternatives	-2,603	Kawaguchi: Introduce a heat pump function in the air-conditioning heat-source equipment Takino: Replace existing chillers with high-efficiency alternatives	-1,663
Living Environment	Fukusaki: Introduced an air to air heat exchanger and a high-efficiency heat exchanger Satte: Switched from absorption chiller/heaters to air-cooled chillers	-3,134	Matsuzaka: Switch from mercury lamps to LED fluorescent lamps Fukusaki: Introduce air to air heat exchangers and high-efficiency heat exchangers	-4,122
Electronics	Niigata: Introduced high-efficiency pumps Mie: Reduced the discharge pressure of compressors	-7,815	Shiga: Replace absorption refrigerating machines TNCSI Toyama: Appropriately control the air-supply pressure of boilers	-1,188
Non-production sites	Technical Research Institute: Operated air fans at a low-air-volume setting during non-running hours in clean rooms	-46	Technical Research Institute: Replace an absorption refrigerating machine at the experiment facility	-105
Total	—	-13,598	—	-7,078

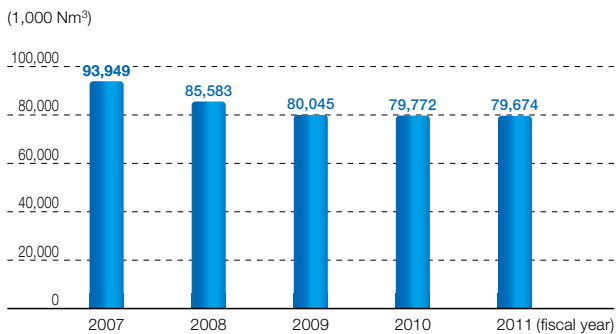
#### Ratios by Energy Type (in terms of caloric value)



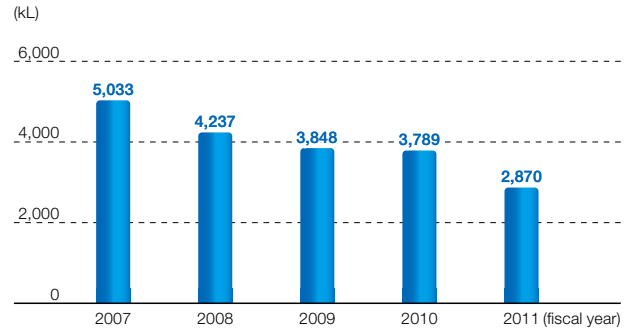
#### Electricity Consumption



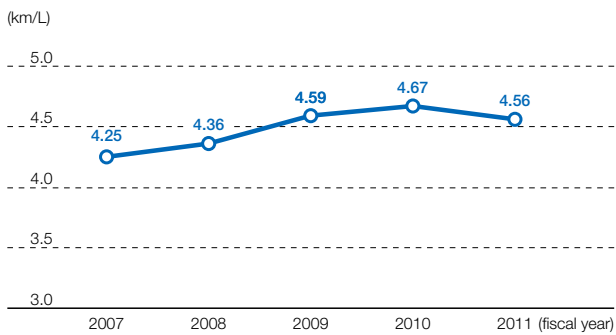
#### Natural Gas Consumption



#### Kerosene Consumption



#### Fuel Efficiency of Company-owned Vehicles



## Building a Recycling-oriented Society

### Promotion of Waste Reduction and Recycling

	Main Measure in Fiscal 2011	Reduction Result (tons/year)	Main Plan for Fiscal 2012	Reduction Target (tons/year)
Information & Networks	Ebie: Reviewed waste management methods Ranzan: Reviewed and extended waste-oil treatment methods	-442	Fukuyama: Recycle ink cans Fukuoka: Reduce the discharge of waste liquids by improving condensation rates	-274
Living Environment	Fukusaki: Consolidated Tedlar® Film manufacturing operations at a single site (Fukaya Plant) Gunma: Processed incinerated ash for reuse as a raw material for cement	-703	Gunma: Process incinerated ash for reuse as a raw material for cement Fukusaki: Review separation and treatment methods for alumina deposition products and composite products	-907
Electronics	Shiga: Internally treated waste liquids (ferric chloride) Kumamoto: Internally treated waste liquids (permanganic acid waste liquid)	-693	TNCSI Toyama: Recycle sludge Mie: Reduce the discharge of waste liquids by improving condensation rates	-539
Non-production sites	Promoted the reduction of non-industrial waste	-275	Promote the reduction of non-industrial waste	-172
Total	-	-2,113	-	-1,892

Note: Includes measures to reduce waste discharge per unit of production value, improve the material recycling rate, reduce final landfill waste disposal, and expand the number of certified zero-emission sites.

### Zero-emission Sites (TZERO-11) (52 plants certified in September 2011)

Operational Site	Total Waste Generation in Fiscal 2010 (tons)	Waste Recycled in Fiscal 2010 (tons)	Recycling Rate in Fiscal 2010 (%)	Average Recycling Rate for Fiscal 2009 and 2010 Combined (%)
Technical Research Institute (Toppan Printing Co., Ltd.)	351.3	351.3	100.0%	100.0%
Asaka Securities Printing Plant (Toppan Communication Products Co., Ltd.)	4,069.6	4,036.6	99.2%	99.6%
Ranzan Plant (Toppan Communication Products Co., Ltd.)	745.3	744.9	99.9%	100.0%
Asaka Plant (Toppan Electronics Products Co., Ltd.)	387.6	387.6	100.0%	100.0%
Shiga Plant (Toppan Electronics Products Co., Ltd.)				
Shiga Plant (Toppan TOMOEGAWA Optical Products Co., Ltd.)	6,516.9	6,398.2	98.2%	97.6%
Niigata Plant (NEC Toppan Circuit Solutions, Inc.)	12,239.6	12,239.6	100.0%	100.0%
Mie Plant [Kameyama] (Toppan Electronics Products Co., Ltd.)	1,563.4	1,563.1	100.0%	100.0%
Mie Plant [Tsu] (Toppan Electronics Products Co., Ltd.)	3,093.9	3,081.2	99.6%	99.8%
Kumamoto Plant (Toppan Electronics Products Co., Ltd.)	4,322.6	4,322.6	100.0%	100.0%
Numazu Plant (Toppan Electronics Products Co., Ltd.)	137.0	133.7	97.6%	98.0%
Toyama Plant (NEC Toppan Circuit Solutions, Inc.)	3,103.7	3,101.6	99.9%	99.9%
Satte Plant (Toppan Functional Products Co., Ltd.)	660.2	660.2	100.0%	100.0%
Itabashi Site	7,620.0	7,569.5	99.3%	99.4%
Asaka Site [Commercial Printing, Publications Printing] (Toppan Communication Products Co., Ltd.)	7,672.7	7,667.5	99.9%	99.9%
Asaka Site (Toppan Joho Kako Co., Ltd.)				
Sakado Site	25,585.9	25,585.9	100.0%	100.0%
Kawaguchi Site	39,794.6	39,794.1	100.0%	100.0%
Itabashi Plant (Toppan Joho Kako Co., Ltd.)	20,832.8	20,819.5	99.9%	99.9%
Sagamihara Plant (Toppan Packaging Products Co., Ltd.)				
Sagamihara Plant (Toppan Packs Co., Ltd.)	18,704.6	18,704.6	100.0%	100.0%
Saitama Plant (Toppan Containers Co., Ltd.)	8,640.6	8,561.2	99.1%	99.1%
Sano Plant (Toppan Containers Co., Ltd.)	3,690.7	3,645.8	98.8%	98.8%
Miyagi Plant (Toppan Containers Co., Ltd.)	3,933.4	3,923.0	99.7%	99.6%
Kumagaya Site (Toppan Containers Co., Ltd.)	320.9	320.8	100.0%	100.0%
Koshigaya Plant (Toppan Plastic Co., Ltd.)	471.6	470.9	99.8%	99.5%
Wakayama Manufacturing Department (Fukusaki Plant of Toppan Plastic Co., Ltd.)	109.0	109.0	100.0%	100.0%
Ranzan Plant (Toppan Packaging Service Co., Ltd.)	314.7	314.6	100.0%	100.0%
Sodegaura Beverage Plant (Toppan Packaging Service Co., Ltd.)	696.3	685.0	98.4%	98.4%
Kyushu Plant (Toppan Packaging Service Co., Ltd.)	146.8	146.8	100.0%	100.0%
Kashiwa Plant (Toppan Decor Products Inc.)	214.6	214.6	100.0%	100.0%
Satte Plant (Toppan Decor Products Inc.)	5,794.2	5,794.2	100.0%	100.0%
Itami Plant (Toppan Packaging Products Co., Ltd.)	8,577.0	8,540.0	99.6%	99.5%
Fukusaki Plant (Toppan Plastic Co., Ltd.)	329.6	329.6	100.0%	100.0%
Toppan Harima Products Co., Ltd.	544.3	544.3	100.0%	100.0%
Takino Plant (Toppan Communication Products Co., Ltd.)	11,467.2	11,388.4	99.3%	99.3%
Takino Plant (Toppan Packaging Products Co., Ltd.)	5,081.5	5,078.3	99.9%	99.9%
Takino Securities Printing Plant (Toppan Communication Products Co., Ltd.)	1,191.5	1,181.3	99.1%	99.6%
Nagoya Plant (Chubu Division)	5,685.9	5,685.9	100.0%	100.0%
Matsuzaka Plant (Toppan Packaging Products Co., Ltd.)	2,957.7	2,938.3	99.3%	99.2%
Mikkabi Site (Toppan Packs Co., Ltd.)	3,643.8	3,643.8	100.0%	99.6%
Fukuoka Plant (Toppan Packaging Products Co., Ltd.)	5,585.7	5,582.6	99.9%	100.0%
Fukuoka Plant (Toppan Communication Products Co., Ltd.)	5,504.1	5,504.1	100.0%	100.0%
Saga Plant (Toppan Plastic Co., Ltd.)	226.7	226.4	99.8%	99.8%
Tamana Plant (Nishinohon Site of Toppan Packs Co., Ltd.)	4,980.5	4,980.5	100.0%	100.0%
Fukuyama Plant (Toppan Joho Kako Co., Ltd.)	4,303.5	4,261.6	99.0%	99.2%
Sendai Plant (Higashinohon Division)	4,843.9	4,757.4	98.2%	98.1%
Sapporo Plant (Hokkaido Division)	2,576.1	2,576.1	100.0%	100.0%
Chitose Plant (Hokkaido Division)	4,946.6	4,888.5	98.8%	99.1%
Mito Plant (Toppan Prosprint Co., Ltd.)	4,681.0	4,678.1	99.9%	99.9%
Koto Plant (Toppan Prosprint Co., Ltd.)	1,700.1	1,695.4	99.7%	99.8%
Sansei Printing Ltd.	40.0	40.0	100.0%	100.0%
Toppan office inside Fukuren Co., Ltd.	95.3	95.3	100.0%	100.0%
Fukaya Plant (Toppan Functional Products Co., Ltd.)	1,091.5	1,083.2	99.2%	99.6%
Sakai Plant (Toppan Electronics Products Co., Ltd.)	853.0	848.9	99.5%	99.5%

Note: Two criteria were set for certifying operational sites as zero-emission sites in September 2011. 1) For first-time certification, a site is required to have attained a recycling rate of 98% or over in fiscal 2010. 2) For ongoing certification, a site is required to have attained an average recycling rate of 98% or over for fiscal 2009 and fiscal 2010 combined.

## Preventing Pollution / Controlling Chemical Substances

### PRTR Results for Fiscal 2011

(Unit: kg/year)

PRTR No.	Chemical Substance	Handled	Released	Released			Total Transferred
				1. Atmosphere	2. Water	3. Soil	
20	2-aminoethanol	53,808	0	0	0	0	18,947
30	Linear alkylbenzenesulfonate and chlorides	3,081	0	0	0	0	928
44	Indium and its compounds	10,644	0	0	0	0	810
53	Ethylbenzene	26,658	3,975	3,975	0	0	325
58	Ethylene glycol monomethyl ether	3,208	384	384	0	0	793
59	Ethylenediamine	6,134	0	0	0	0	6,006
71	Ferric chloride	1,663,675	6	0	6	0	1,418,351
76	ε-caprolactam	2,309	0	0	0	0	272
80	Xylene	60,746	5,336	5,336	0	0	396
87	Chromium and trivalent chromium compounds	30,042	19	0	19	0	8,343
88	Hexavalent chromium compounds	19,769	7	0	7	0	931
144	Inorganic cyanide compounds	3,107	0	0	0	0	106
151	1,3-dioxolane	28,118	3,365	3,365	0	0	6,954
243	Dioxins (mg-TEQ)	868	8	8	0	0	860
272	Copper salts (water-soluble, except complex salts)	1,140,779	386	0	386	0	109,850
291	1,3,5-tris(2, 3-epoxypropyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	2,330	0	0	0	0	406
296	1,2,4-trimethylbenzene	53,585	2,270	2,270	0	0	719
297	1,3,5-trimethylbenzene	7,577	2,263	2,263	0	0	5,313
300	Toluene	3,577,185	319,835	319,835	0	0	393,774
306	Hexamethylene diacrylate	1,361	1,361	1,361	0	0	0
308	Nickel	50,845	0	0	0	0	795
309	Nickel compounds	23,736	52	0	52	0	19,629
392	n-hexane	1,552	186	186	0	0	384
395	Water-soluble salts of peroxodisulfuric acid	271,120	0	0	0	0	0
405	Boron and its compounds	2,886	150	0	150	0	3
407	Poly(oxyethylene)alkyl ether (alkyl C=12-15)	1,805	0	0	0	0	59
411	Formaldehyde	46,263	28	28	0	0	211
412	Manganese and its compounds	11,144	96	0	96	0	3,572
420	Methyl methacrylate	6,705	114	114	0	0	713
438	Methylnaphthalene	78,989	397	397	0	0	0
448	Methylenebis(4,1-phenylene) diisocyanate	13,559	0	0	0	0	3,037
	Total of designated substances	7,202,720	340,230	339,514	716	0	2,001,627

Notes: • Period covered: April 1, 2011–March 31, 2012

• Substances designated: The 31 substances shown above

• Operational sites covered: Sites that handle more than 1.0 ton of Class I designated chemical substances per year. (Or specified Class I designated chemical substances in excess of 0.5 tons per year.)

• The total transfer is the sum of transfers into waste and sewage systems.

### Ratios of Greenhouse Gas Emissions by Type

(in tons of CO<sub>2</sub> equivalent)

(Unit: ratio: % total: t-CO<sub>2</sub>)

Fiscal Year	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	Total
2008	99.93	—	0.07	751,901
2009	99.92	—	0.08	715,729
2010	99.93	—	0.07	722,724
2011	99.92	—	0.08	695,534

### Ratios of Greenhouse Gas Emissions by Source

(in tons of CO<sub>2</sub> equivalent)

(Unit: ratio: % total: t-CO<sub>2</sub>)

Fiscal Year	Electricity Use	Fuel Use	Waste Incineration	Total
2008	66	31	4	751,901
2009	66	30	4	715,729
2010	67	29	4	722,724
2011	66	30	4	695,534

Note: Calculated by the method specified in the Guidelines for Calculating Greenhouse Gas Emissions from Businesses (2003) from the Ministry of the Environment of Japan. In addition to the total sum of greenhouse gas emissions, Toppan identifies 10,743 t-CO<sub>2</sub> of greenhouse gas emissions (associated with SF<sub>6</sub>) discharged by Ortus Technology Kochi Co., Ltd.

## Promoting the Conservation of Biodiversity

### ECO-GREEN Purchasing

Fiscal Year	2008	2009	2010	2011
Case	2,753	2,634	2,703	2,825

Note: ECO-GREEN is a toilet paper composed of about 50% used Cartocan paper.

## Eco-creativity Activities

### List of Environmentally Friendly Products (105 products as of March 2012)

Business Field	Product	Environmental Point	Business Field	Product	Environmental Point
Securities and Cards	Ecothrough card	Suitability for disposal	Packaging	Biodegradable Package	Biodegradability
	Paper IC Card	Use of recycled materials		Cylindrical Paper Cartridges	Resource-saving (reduced use of energy in logistics)
	Bulky Waste Processing Sticker	Resource-saving (reduced use of materials)		Coated Barrier Film	Suitability for disposal
	Card for ETC	Suitability for disposal		GL-C Bottle	Resource-saving
	Rewritable Paper	Long product life		GX film	Resource-saving
	Ultra-thin DM	Resource-saving		Jar Plus	Resource-saving
	Green Bankbook	Recyclability		Tray All	Easy separation and disassembly
	KAMICARD®	Biodegradability, recyclability		GL Film Lined Paper Cup	Resource-saving
	KAMI-RFID CARD	Easy separation and disassembly, recyclability		Double-Wall Barrier Cup	Resource-saving
Commercial Printing	Eco Pack (life-size POP display)	Resource-saving (reduced use of materials)	Oil-Proof Paper	Use of safe materials	
	Paper Desk Calendar	Use of recycled materials	Functional Coated Paper	Recyclability	
	Ecology Calendar	Use of recycled materials	In-Mold Barrier Cup	Resource-saving	
	Eco POP	Use of recycled materials, suitability for disposal, energy-saving	Tamper-Evident Recyclen Cap	Easy separation and disassembly	
	Cerap	Suitability for disposal	Easy peel-off thermo-cap for PET bottles	Easy separation and disassembly	
	Eco Pack Stand	Resource-saving	Ecoband	Resource-saving	
	Eco Pack Multipanel	Reusability	Water-based Cold Seal	Reduced release of chemical substances	
	Eco Floor Sticker	Suitability for disposal	Biodegradable Plant Pot	Biodegradability	
	Eco Pack End Panel	Resource-saving	Barrier Cup (NSP Process)	Resource-saving	
	Eco Pack Stand, Round-type	Resource-saving	Plastic Clip	Recyclability	
	EPOP	Use of safe materials	Notchless Easy-cut Container (AL type)	Resource-saving (reduced energy expended in manufacturing)	
	Eco Pack Multipanel Mini	Reusability	Recycled PET Clear Case	Recyclability	
	Multicube POP	Reusability	ALUGLAS	Suitability for disposal	
Publications Printing	Recycled vegetable-Oil Ink	Use of recycled materials	Stripping and heat-sensitive label for glass bottles	Easy separation and disassembly	
	Polyurethane Reactive Hot-Melt	Easy separation and disassembly	Food container made from heat-resistant paper	Resource-saving	
	Non-Vinyl Chloride Lenticular Lens	Suitability for disposal	Paper carton with tamper evident closure	Resource-saving	
	Disk Tottokun Series	Recyclability	One-piece occlusion-preventive plug for TL-PAKs	Resource-saving	
Electronics	Halogen-free printed wiring board	Suitability for disposal	Sealed paper tray	Resource-saving	
	Anti-reflection film	Use of safe materials	Flexible packaging material using paper	Resource-saving	
	Color filter (resin black matrix [BM])	Use of safe materials	Clear UV-Blocking Film	Suitability for disposal	
	Palladium-plated leadframe	Use of safe materials	Injection-molded articles of biomass-plastics	Resource-saving	
	Lead-free solder coated printed wiring board	Use of safe materials	EL-Case	Easy separation and disassembly	
Packaging	GL Family	Suitability for disposal	Oil-proof paper for fluorine-free cardboard	Use of safe materials	
	Standing pouch for refill	Resource-saving (reduced use of materials)	Paper cup made from pulp from forest-thinning	Resource-saving	
	Bottled Pouch	Resource-saving (reduced use of materials)	GL-compliant back sheet for solar cells	Suitability for disposal, long product life	
	Plastic Container Made from Recycled Materials	Use of recycled materials	Paper composite container	Resource-saving, recyclability	
	Ecogloss (environmentally-friendly gloss finishing)	Resource-saving (reduced use of exhaustible materials), use of recycled materials	Pouch-type fragrance container	Resource-saving, recyclability	
	Recording Media Packaging	Resource-saving (reduced use of exhaustible materials)	Resource-saving Cartocan (rectangular type)	Resource-saving, recyclability	
	TT Paper Can	Easy separation and disassembly	Packaging materials using low-migration type adhesives	Reduced release of chemical substances, use of safe materials	
	Neovert	Use of recycled materials	Delayed-tack label for glass bottles (film type)	Easy separation and disassembly, resource-saving	
	Ecotainer	Resource-saving (reduced use of exhaustible resources)	Cylindrical paper-complex container	Resource-saving	
	TL-PAK	Resource-saving (reduced use of exhaustible resources)	High Resistance Flexible Pouch	Resource-saving	
	EP-PAK (EP-GL)	Resource-saving (reduced energy usage in logistics)	Folding Pouch (for refilling)	Easy separation and disassembly	
	EP-PAK (A)	Resource-saving (reduced energy usage in logistics)	Biomass plastic shrink label	Resource-saving	
	Stand-up Laminated Tube	Resource-saving (reduced use of materials)	In-mold Decorated Components	Reduced release of chemical substances	
	Recyclen Cap	Easy separation and disassembly	Aluminum-free Dead-fold Lid Material	Suitability for disposal	
	AP Cartons	Resource-saving (reduced use of energy in logistics)	Polyolefin GL-C	Resource-saving	
	Micro-Flute	Resource-saving (reduced use of energy in logistics)	Solar cell back sheet	Energy-saving	
	TP-Tray	Recyclability	Special Shaped Pouch with Embossing and Laser-cutting	Easy separation and disassembly	
	Corrugated Absorber	Recyclability	Heat-insulating Paper with Foamed Layer	Reduced energy consumption in production	
	AD-Case	Resource-saving (reduced use of materials)	Moisture-barrier standing pouch	Resource-saving, suitability for disposal	
	Cartocan	Recyclability	Multi-layer blow tube	Reduced solid waste, resource-saving	
	Paper Cup Made from Recycled Paper	Use of recycled materials	Steam Release Packaging (standing pouch type, GL specification)	Resource-saving, reduced solid waste	
	Cup made from Tree-Free paper	Resource-saving (use of byproducts)			



## Environmental Accounting

### Capital Investment for Environmental Conservation (million yen)

Item	Major Content	Fiscal 2011	Increase/Decrease from Fiscal 2010	Total Sum for the Last Five Years
1	Investment in equipment to prevent pollution	607	-780	4,951
2	Investment in equipment to conserve the global environment	1,000	741	3,299
3	Investment in equipment to circulate resources	577	-59	3,864
4	Investment in equipment to carry out management activities	88	-117	345
Total		2,272	-215	12,459

### Environmental Conservation Benefit

Item	Major Content	Increase/Decrease*1	Fiscal 2011
Energy	Total energy consumption (1,000 GJ)	-2,013	24,486
Water	Water consumption (1,000 m <sup>3</sup> )	-44	20,035
Atmosphere	CO <sub>2</sub> emission (1,000 t-CO <sub>2</sub> )	-85	1,200
	Emission of ozone-depleting substances (ODP-t)	0	156
	NOx emission (tons)	-9	173
	SOx emission (tons)	-4	30
Water and soil environments	Emission of dioxins (mg-TEQ)	-67	12
	Total effluent discharge (1,000 m <sup>3</sup> )	-103	17,698
	BOD (tons)	3	60
	COD (tons)	8	28
Waste	Total discharge (1,000 tons)	35	476

\*1 Increases and decreases from fiscal 2010

## Green Procurement and Green Purchasing

### Green Procurement Standards for Paper and Levels of Fulfillment

	Level 1	Level 2	Result	
			Fiscal 2010	Fiscal 2011
1. Using recycled paper	100% recycled paper, or more-than-70% recycled paper plus forest-certified paper for the remaining portion	More-than-70% recycled paper, or forest-certified paper, tree-free paper, or paper made with pulp from forest-thinning operations	12.8%	7.3%
2. Considering the degree of whiteness	About 70% (±4%) for non-coated paper	About 80% (±4%) for non-coated paper		
3. Considering the volume of coating	Below 12 g/m <sup>2</sup> (maximum of 8 g/m <sup>2</sup> per single surface)	Below 30 g/m <sup>2</sup> (maximum of 17 g/m <sup>2</sup> per single surface)		
4. Using chlorine-gas-free pulp	100% ECF-bleached pulp (no chlorine gas [Cl <sub>2</sub> ] used for bleaching)			
5. Not containing hazardous substances	Non-usage of azo-coloring agent, a substance that could potentially form the amines shown in the attached list	For the amines shown in the attached list, no more than 30 mg per 1 kg of product should be detectable		
6. Reducing component properties obstructive to waste paper recycling	Non-usage of printing materials with waste paper recyclability rankings of B, C, or D	Non-usage of printing materials with waste paper recyclability rankings of C or D		
7. Procuring from manufacturers proactively engaged in paper recycling	Procurement from manufacturers who proactively use waste paper as a raw material for recycled paper			

Note: Results under the Green Standards for Offset Printing Services (2006 amendment) of the Japan Federation of Printing Industries (JFPI)

### Green Procurement Standards for Ink and Levels of Fulfillment

	Level 1	Level 2	Result	
			Fiscal 2010	Fiscal 2011
1. Avoiding the use of substances harmful to the human body	Conformance with the NL regulations of the Association of Japan Printing Ink Manufacturers		94.4%	90.6%
2. Avoiding the use of substances known to generate hazardous substances	Non-usage of chloride-based resins			
3. Considering chemical substances designated under the PRTR law	Non-usage of substances designated under the PRTR law	Identification of substances designated under the PRTR law (via MSDSs)		
4. Controlling VOC emissions	VOC content below 1% (non-VOC ink) [excluding ink for web press]	VOC content below 15% (low-VOC ink) or soybean oil ink		
5. Reducing component properties obstructive to waste paper recycling	Non-usage of printing materials with waste paper recyclability rankings of B, C, or D	Non-usage of printing materials with waste paper recyclability rankings of C or D		

Note: Results under the Green Standards for Offset Printing Services (2006 amendment) of the Japan Federation of Printing Industries (JFPI). The data for fiscal 2010 and earlier are adjusted based on revised calculation methods.

### In-house Green Purchasing Standards and Levels of Fulfillment

Product	Standard	Result for Fiscal 2011
Copy machines and printers	Configured to automatically revert to low-power mode or off mode	100%
PCs	Configured to automatically revert to low-power mode or off mode	100%
Stationery and office goods	Products listed in the eco-friendly product catalogues of manufacturers	78.9%