

Environmental performance data in fiscal 2007

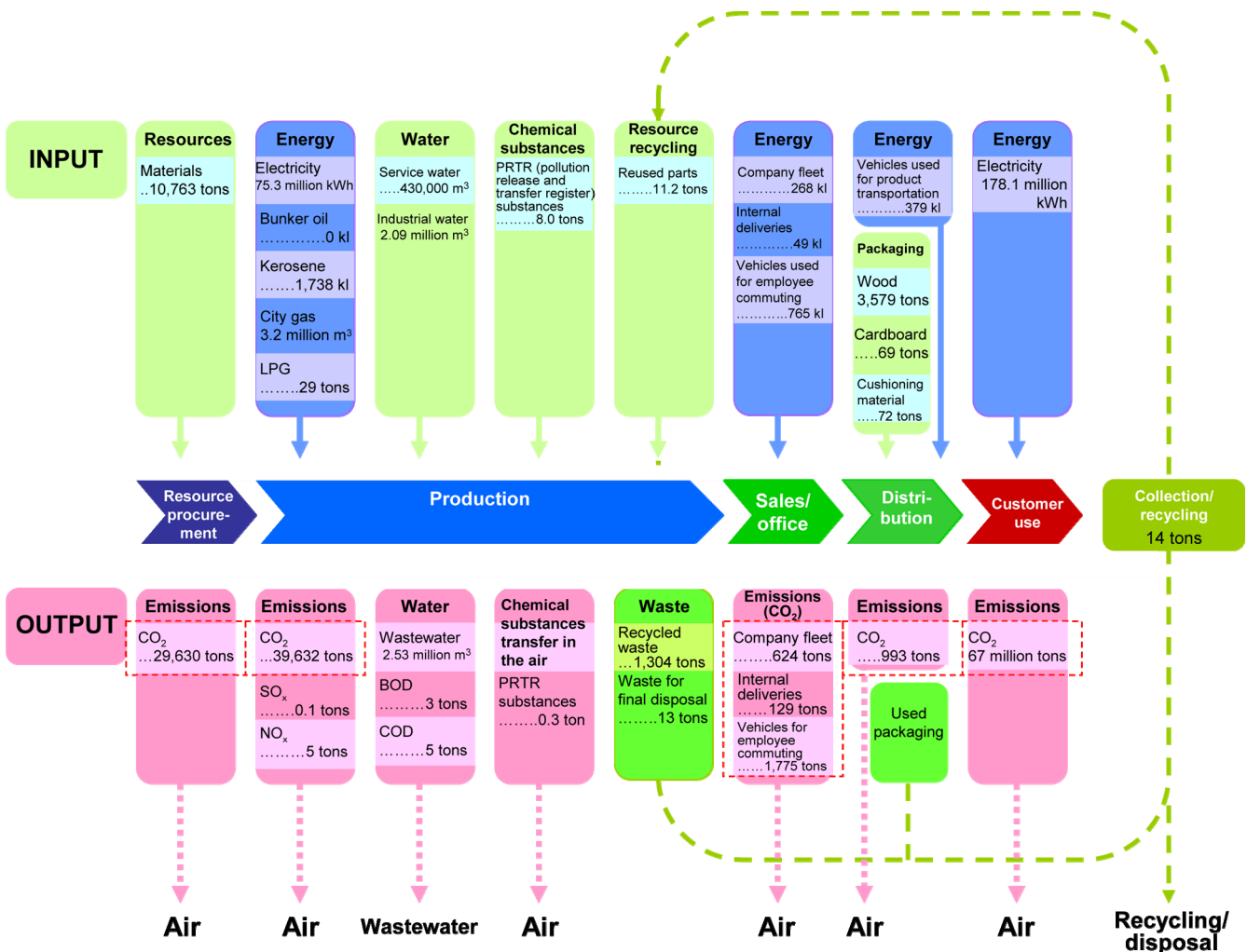
Fiscal 2007 is the third year of Phase II of Eco Value 21, our four-year medium-term environmental plan. In accordance with this plan, we are actively reducing CO₂ emissions, conserving resources, reducing waste, and promoting environmentally-friendly products. Environmental performance data presents the progress of our environmental conservation initiatives under this plan.

Fiscal 2007

- [Reducing greenhouse gas \(CO₂\) emissions](#)
- [Saving resources, reducing waste](#)
- [Properly controlling chemical substances](#)

Environmental impact of business activities

The lifecycle of a product can be roughly categorized into five stages: (1) resource procurement, (2) production, (3) business and office activities, (4) physical distribution, and (5) use by customers. We are promoting the reduction of environmental impact over the five stages.



Total CO₂ emissions during a life cycle are about 140,000 tons.

Consolidated net sales per ton of CO₂ emissions: 2 million yen/ton.

Note: Scope; Domestic plants and group companies that obtained the certification of the environment management system.

Emissions of greenhouse gases (CO₂)

Based on Phase II of Eco Value 21, the four-year medium-term environmental plan, we have set a target of “Reducing the CO₂ emission and production base unit (called the “CO₂ emission base unit” in the rest of this document) by 11% or more compared to fiscal 2000 by fiscal 2008”, and have been making a groupwide effort to achieve this target.

[Target in fiscal 2007]	Reducing the CO ₂ emission base unit by 8% or more (21.5 tons/100 million yen) compared to fiscal 2000.
	↓
[Result in fiscal 2007]	The result was a reduction of 6% (21.9 tons/100 million yen). We could not achieve the target in spite of the following activities. One of the major causes of the failure to achieve the target is the power usage increase due to the maintenance of the Hikone Plant.

For Japan’s emission reduction target in the Kyoto Protocol, “6% reduction compared to fiscal 1990”, Dainippon Screen is keeping values close to the reduction target. There is no emission of greenhouse gases other than CO₂.

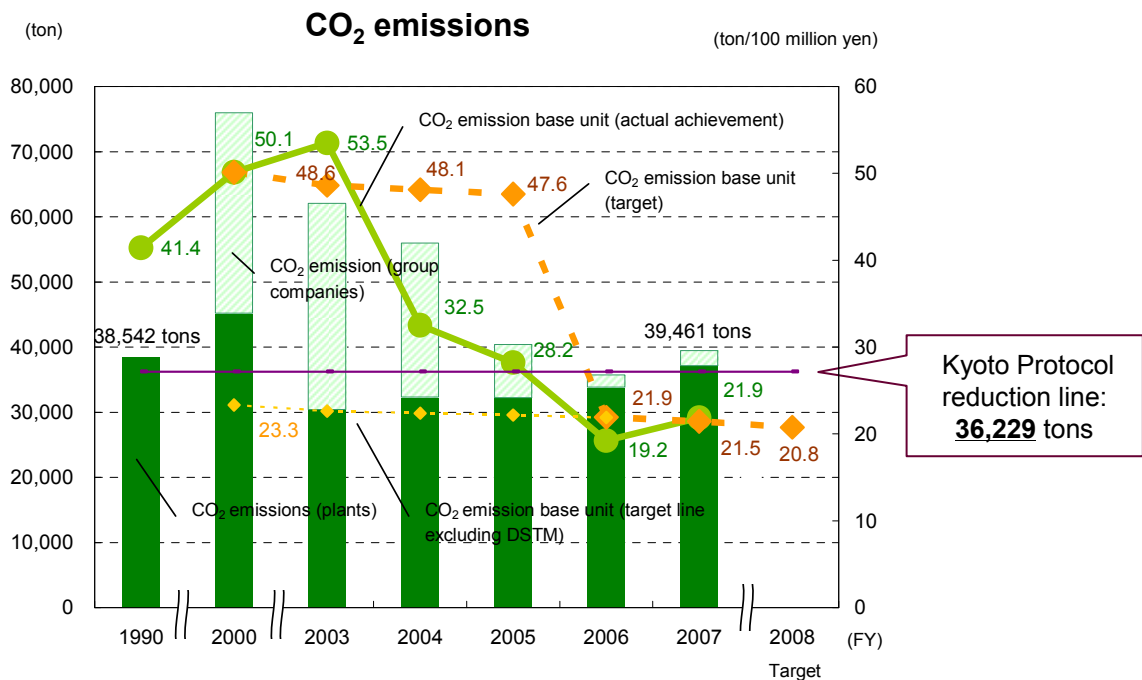
Specific initiatives

In fiscal 2007, we installed new facilities and improved the operation of existing facilities. When the head office was refurbished, the air conditioning facilities were upgraded. In the Hikone Plant, we installed solar panels and energy-saving facilities when the Process Technology Center and the Welfare Center were built. For existing facilities, the boiler fuel was changed and the operation within clean rooms was improved. In other plants, we are promoting the introduction of inverter control. The effects of major activities in fiscal 2007 are shown below.

Unit: ton

Item	Plant	CO ₂ annual reduction effect
Switching boiler fuel from heavy oil to city gas	Hikone Plant	About 1,300
Adopting full electrification	Hikone Plant	About 50
Proper operation within clean rooms according to area lighting	Hikone Plant	About 97

Considering the possible increase of CO₂ emissions with the expansion of business in the future, we have established a companywide special committee (energy conservation sub-committee) to develop the energy saving measures in facilities and equipment.



Note: Scope; Domestic plants and group companies that obtained the certification of the environment management system.

Note: Because DST Micronics (DSTM) was liquidated due to withdrawal from CRT mask business, we reviewed the target in fiscal 2006. We adjusted the fiscal 2000 baseline value by excluding the achievement of DSTM and set a new target accordingly.

CO₂ emissions for each plant and group company

[Domestic groups]

Unit: ton

Plant & office/ group company	FY 1990	FY 2000	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Hikone Plant	27,535	23,618	10,721	10,811	11,393	12,279	15,564
Head Office/Nishikyogoku Office	2,848	1,779	1,449	1,468	1,486	962	945
Rakusai Site	4,620	7,010	6,669	6,686	5,978	6,535	6,011
Taga Plant	/	3,648	3,488	3,986	3,736	4,206	4,608
Yasu Plant	/	5,771	4,930	5,889	6,129	6,424	6,169
Kuze Plant	1,742	1,637	1,369	1,669	1,626	1,490	1,832
Kumiyama Plant	1,797	1,405	1,591	1,656	1,717	1,763	1,806
Ikebukuro/Kudan/Otsuka Offices	-	341	217	210	166	199	215
Total of plants and offices	38,542	45,208	30,434	32,376	32,230	33,859	37,150
Tec Communications	/	-	62	65	61	55	55
TechIn Tech	-	1,001	628	563	479	585	728
Laser Solutions	/	-	-	-	-	-	37
FEBACS	/	-	-	-	-	-	141
MT Service Japan West	-	-	-	-	-	-	43
DST Micronics	/	29,789	30,377	22,303	6,841	/	/
SSERC	/	-	-	5	5	10	11
Quartz Lead	/	/	520	621	709	1,151	1,274
Transup Japan	/	/	48	54	84	90	22
Total of group companies	0	30,790	31,634	23,611	8,178	1,891	2,311
Total of domestic groups	38,542	75,998	62,069	55,987	40,408	35,751	39,461

[Overseas group]

MTMC	/	/	-	-	-	-	342
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Note: MTMC; Dainippon Screen MT (Hangzhou) Co., Ltd.

Since fiscal 2007, data of the overseas group company MTMC has been disclosed.

Note: Basis for calculation;

For domestic groups, CO₂ emissions are calculated based on "Guidelines for Calculating Greenhouse Gas Emission from Businesses" prepared by the Ministry of the Environment.

Emission conversion coefficient = average of greenhouse gas emissions of domestic power companies 0.378 kgCO₂/kWh

For overseas groups, CO₂ emissions are calculated based on "Energy Information Administration Country Analysis Briefs" of the IEA statistics in "Electric Power Industry Overseas, Part I, Supplement" published by Japan Electric Power Information Center.

Emission conversion coefficient = 0.824 tons/MWh

Note: The "-" in the table indicates that this plant or company is out of the scope of the environmental management system. The "/" indicates that this plant or company did not exist in the fiscal year because it had not yet been established or for other reasons.

Low-emission vehicles (eco-car)

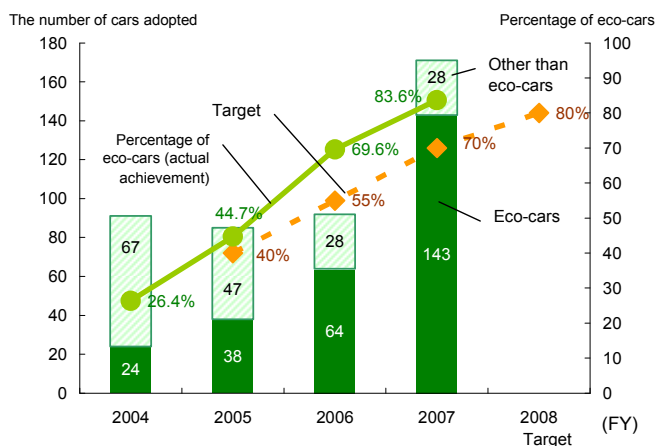
Based on Phase II of Eco Value 21, the four-year medium-term environmental plan, we have set a target of "Increasing the percentage of eco-cars owned by the entire Screen group to more than 80% by fiscal 2008" and have been making a groupwide effort to achieve this target.

[Target in fiscal 2007] Percentage of eco-cars: 70%

[Result in fiscal 2007] The percentage of eco-cars was 84% (143/171 cars) and we were able to achieve the target.

Note: Scope; Domestic plants and group companies that obtained the certification of the environment management system.

The number of cars owned by the Screen group and the number of eco-cars adopted by the Screen group



Dainippon Screen Group environmental performance data in fiscal 2007

Saving resources and reducing wastes

Based on Phase II of Eco Value 21, the four-year medium-term environmental plan, we have set a target of “Reducing the waste emission and production base unit (called the “waste emission base unit” in the rest of this document) by 9% or more compared to fiscal 2000 by fiscal 2008” and have been making a groupwide effort to achieve this target.

[Target in fiscal 2007] Reducing the waste emission base unit by 6% or more, compared to fiscal 2000 (1.02 tons/100 million yen)



[Result in fiscal 2007] The base unit was reduced by 33% (0.73 tons/100 million yen) and we were able to achieve the target.

Specific initiatives

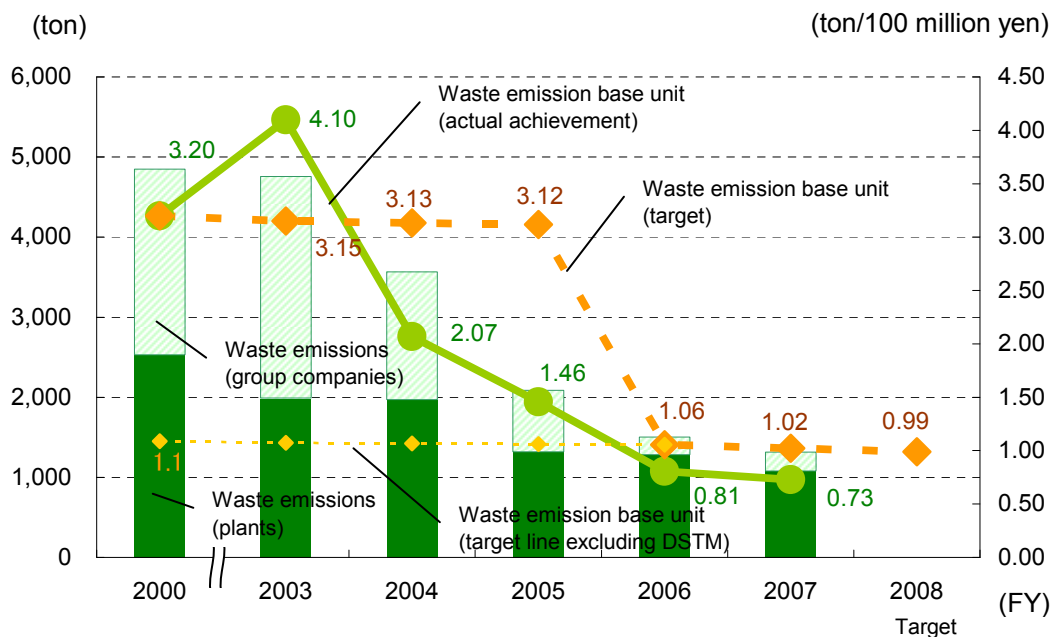
In fiscal 2007, we promoted through separation of trash, reviewed the processing method, and reduced resources used in the process.

These activities resulted in the reduction of waste emissions and the improvement of the reclamation rate. The effects of major activities in fiscal 2007 are shown below.

Unit: ton

Item	Plant	Waste emission annual reduction effect
Converting wafers into valuable resources	Rakusai Site	About 0.3
Converting electric parts, metal, and cardboards into valuable resources	Kumiyama Plant	About 34
Reducing the usage of printed paper	Kuze Plant	About 27

Waste emissions



Note: Scope; Domestic plants and group companies that obtained the certification of the environment management system

Note: Because DST Micronics (DSTM) was liquidated due to withdrawal from CRT mask business, we reviewed the target in fiscal 2006. We adjusted the fiscal 2000 baseline value by excluding the achievement of DSTM and set a new target accordingly.

Waste emissions for each plant and group company

Unit: ton

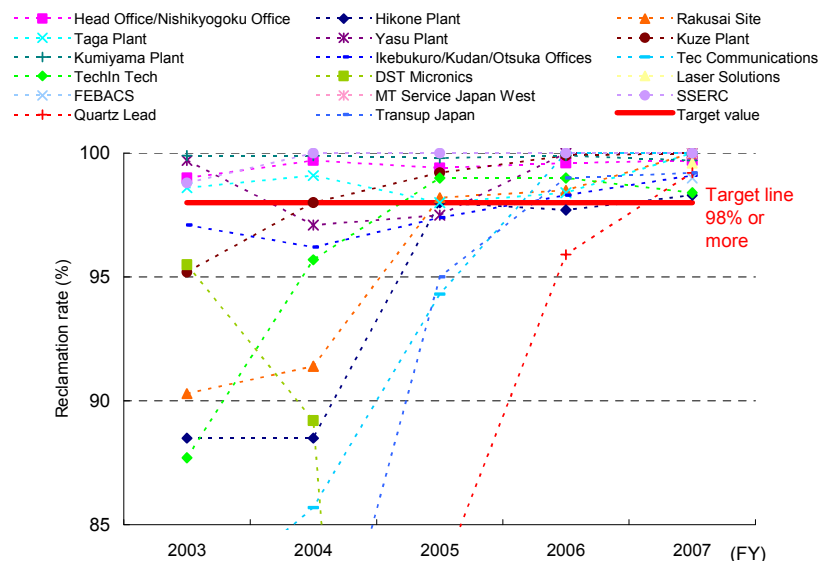
Plant & office/ group company	FY 2000	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007
Hikone Plant	1,639	1,007	719	338	326	424
Head Office/Nishikyogoku Office	50	48	65	47	33	18
Rakusai Site	166	244	227	194	147	128
Taga Plant	103	139	202	105	125	92
Yasu Plant	213	173	292	263	264	162
Kuze Plant	127	138	225	170	120	59
Kumiyama Plant	221	215	216	180	247	178
Ikebukuro/Kudan/Otsuka Offices	12	25	25	24	19	19
Total of plants and offices	2,532	1,989	1,972	1,321	1,282	1,080
Tec Communications	-	10	10	8	9	8
TechIn Tech	28	16	20	22	23	23
Laser Solutions	-	-	-	-	-	2
FEBACS	-	-	-	-	-	3
MT Service Japan West	-	-	-	-	-	5
DST Micronics	2,287	2,682	1,480	647	/	/
SSERC	-	-	1	2	1	1
Quartz Lead	/	57	81	86	186	191
Transup Japan	/	1	1	1	1	1
Total of group companies	2,316	2,766	1,592	765	220	234
Total of domestic groups	4,847	4,755	3,564	2,086	1,501	1,313

Note: Note: The “-” in the table indicates that this plant or company is out of the scope of the environmental management system. The “/” indicates that this plant or company did not exist in the fiscal year because it had not yet been established or for other reasons.

Reclamation rate for each plant

In fiscal 2007, we have set a target of “Achieving a reclamation rate of 98% or more (achieving a waste simple incineration and simple landfill rate of 2% or less)”. This target was achieved by all plants and group companies. We will continue to make efforts to further improve the reclamation rate.

Note: Scope; Domestic plants and group companies that obtained the certification of the environment management system.



Data of substances targeted by the PRTR law

Targeted substances

Of the substances targeted by the PRTR law*¹ (Pollutant release and transfer register law), the substances that the Screen group uses 0.1 tons or more annually are defined as target substances. Four substances (xylene, hydrogen fluoride and its compound, ethylene glycol, and hydrazine), which are the same as those in the previous fiscal year, are determined as target substances and the usage is 8.0 tons. We will continue to make efforts to manage them properly and reduce them based on the law.

Data of substances targeted by the PRTR law

Unit: ton

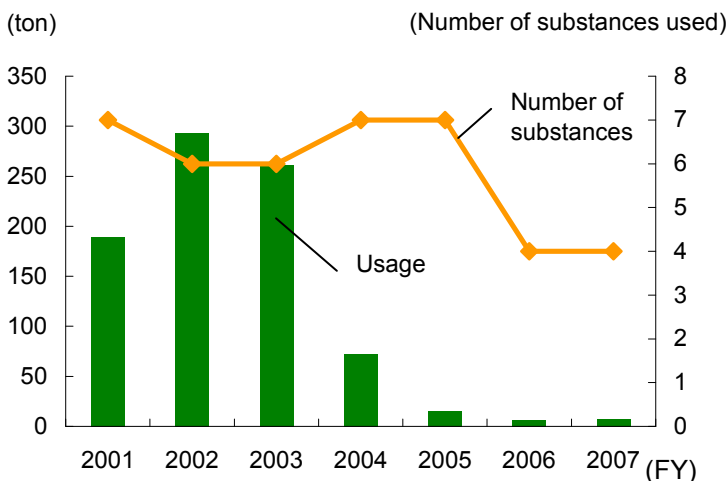
Substance name	Cabinet order number	Usage			Amount of movement								
					Emissions to the atmosphere			Emissions to the water system			Amount of movement of wastes		
		2005	2006	2007	2005	2006	2007	2005	2006	2007	2005	2006	2007
Hexavalent chromium compound	69	1.6	-	-	0.0	-	-	0.0	-	-	0.2	-	-
Trivalent chromium compound	-	0.0	-	-	0.0	-	-	0.0	-	-	1.4	-	-
Xylene	63	-	0.3	0.3	-	0.3	0.3	-	0.0	0.0	-	0.0	0.0
Hydroquinone	254	0.2	0.2	-	0.0	0.0	-	0.0	0.0	-	0.2	0.2	-
Hydrogen fluoride and its compound	283	2.2	5.7	6.9	0.0	0.0	0.0	0.0	0.0	0.0	2.2	5.7	6.9
Ethylene glycol	43	-	0.4	0.5	-	0.0	0.0	-	0.0	0.0	-	0.4	0.5
Poly (oxyethylene) = nonylphenyl ether	307	0.5	-	-	-	-	-	0.2	-	-	0.3	-	-
Nickel	231	10.8	-	-	0.0	-	-	0.0	-	-	0.0	-	-
Nickel compound	232	0.0	-	-	0.0	-	-	0.0	-	-	10.8	-	-
Hydrazine	253	-	-	0.3	-	-	0.0	-	-	0.0	-	-	0.3
Total		15.3	6.6	8.0	0.0	0.3	0.3	0.2	0.0	0.0	15.1	6.3	7.7

Note: The "-" in the table indicates that the quantity is less than 0.1 ton.

Note: The hexavalent chromium compound and nickel compound fall under Specified Class I Designated Chemical Substances.

Note: The trivalent chromium compound is shown in the table in order to calculate the amount of movement of the hexavalent chromium compound.

Change in usage of PRTR substances



Note: Scope; Domestic plants and group companies that obtained the certification of the environment management system.

PCB processing status

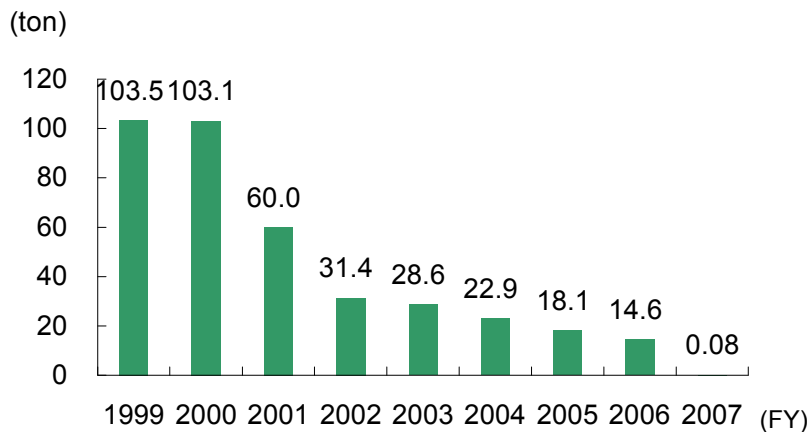
In Hikone Plant, headquarters, and Yasu Plant, capacitors containing PCB and fluorescent ballasts are tightly controlled in stainless containers. In order to process them by 2016 based on the law, application to the institute specified by the government has been completed.

Types of wastes	Targeted amount
High-pressure capacitor	39 units
Low-pressure capacitor	197 units
Fluorescent ballast	179 units

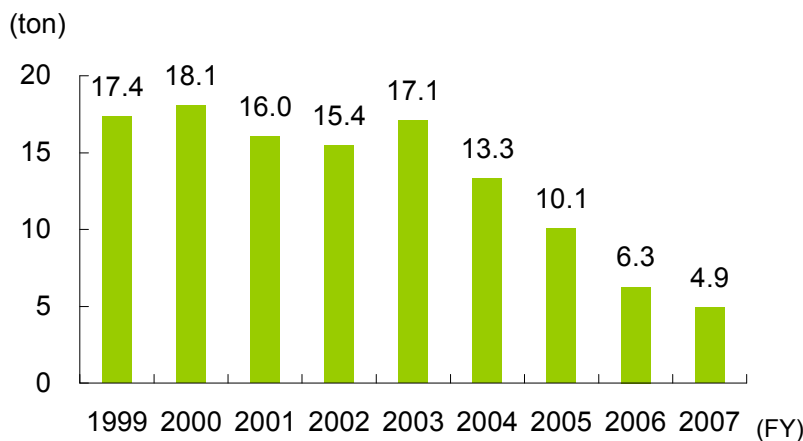
Emissions of SOx and NOx

In Hikone Plant, the supply of thermal energy was switched from fuel oil A to eco-friendly city gas in December 2006 with the upgrading of existing boilers. With this fuel conversion, the amount of SOx*² and NOx*³ could be reduced significantly, resulting in the contribution to the reduction of the environmental impact.

SOx emissions



NOx emissions



Note: Scope; Domestic plants and group companies that obtained the certification of the environment management system.

Atmosphere and water system contamination prevention data

Restricted item	Unit	Restriction value	Company's voluntary standard	Measurement result (Maximum value)			
				2004	2005	2006	2007
COD ^{*4}	mg/L	20	10	2.9	2.4	2.4	2.4
BOD ^{*5}	mg/L	20	10	1.4	1.4	1.4	1.4
SS ^{*6}	mg/L	20	10	1.9	5.2	5.2	5.2
T-P ^{*7}	mg/L	0.8	0.4	Not detected	Not detected	Not detected	Not detected
T-N ^{*8}	mg/L	8	8	0.3	0.8	0.8	0.8
NOx in boiler 1 (New in FY 2006)	ppm	150	130	/	/	31.0	32.0
SOx in boiler 2 (New in FY 2007)	ppm	150	130	/	/	/	30.0
SOx in boiler 3 (New in FY 2007)	ppm	150	130	/	/	/	40.0

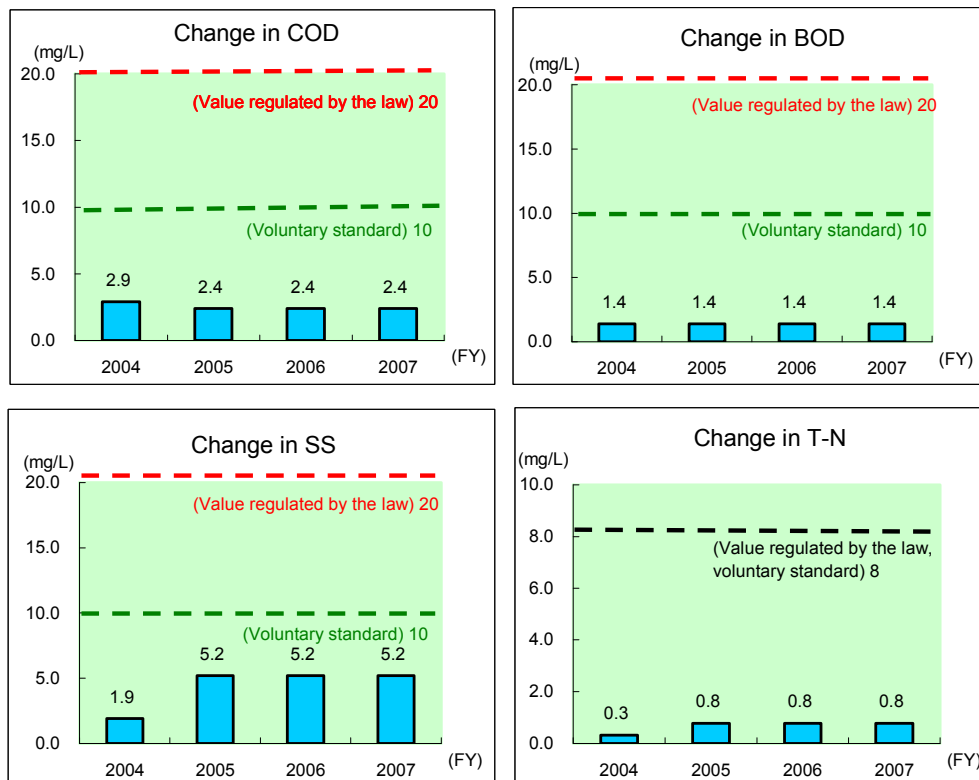
Note: Data of Hikone Plant that has the greatest influence in the Screen group

Action for reducing emissions to the water system

We established the company's voluntary control standard for water contaminants and we are conducting measurements and analyses periodically to control them properly. As a countermeasure against the occurrence of water quality abnormality in the treatment process, we installed a drain receiving tank in case of an emergency.

Change in water contaminant emissions

Note: Data of Hikone Plant that generates 80% of the total wastewater in the Screen group



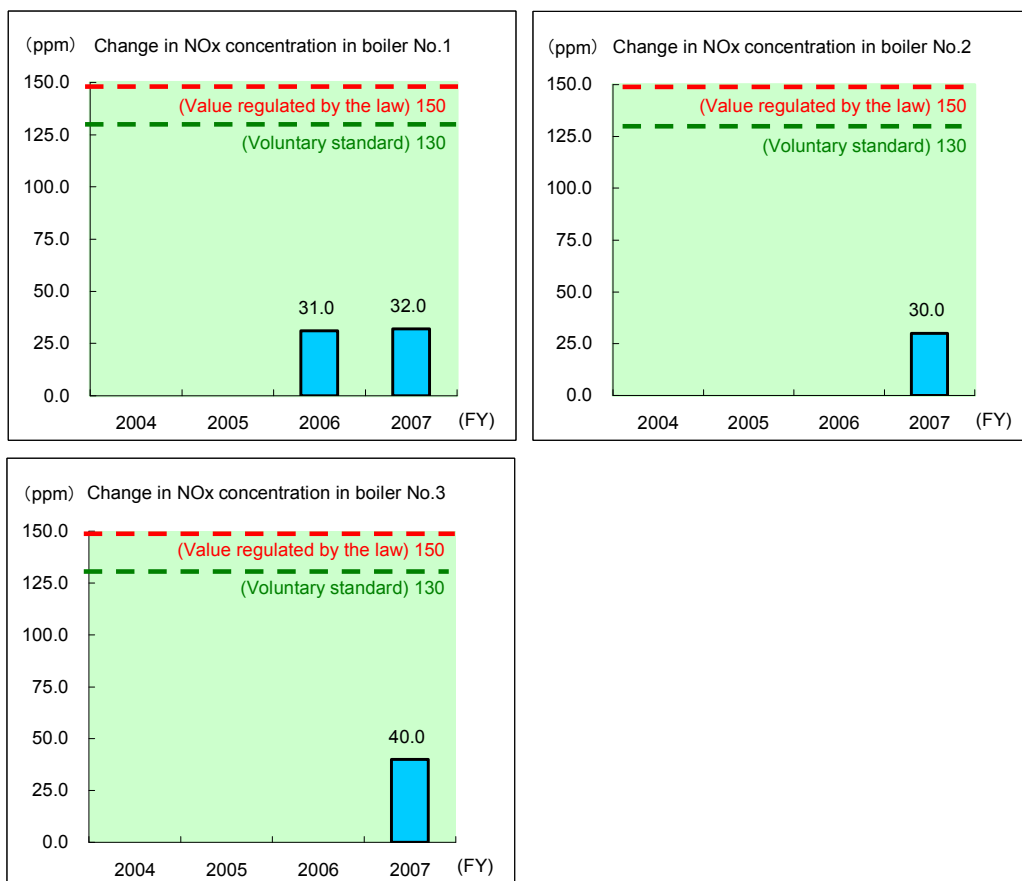
Change in T-N (phosphorus) is not presented because it was not detected.

Action for reducing emissions to the atmosphere

As an action to prevent air pollution, we switched fuel to natural gas containing very small amount of sulfur. In addition, we are making efforts to operate the boilers efficiently by performing periodic inspection and maintenance of equipment.

Change in air pollutant emissions

Note: Data of Hikone Plant that generates 50% of the total emissions in the Screen group



SOx emissions are almost zero due to switching to a new boiler fueled by natural gas.

<Glossary>

- *1: **PRTR law**; Popular name of "Law on Promotion of Recognition and Improvement in Control of Discharge Amount of Specific Chemical Substances into the Environment" established on July 1999
The purpose of this law is to encourage businesses that manufacture and use chemical substances to improve the control of chemical substances voluntarily by grasping the emissions of suspected chemical substances into the environment, in order to prevent problems of environmental preservation due to chemical substances from occurring. Target businesses have been obliged to grasp the amount of emissions of target substances since April 2001 and to notify the government of data since April 2002.
- *2: **SOx (sulfur oxide)**: This substance is generated when burning fossil fuel containing sulfur, such as petroleum or coal. It causes asthma and acid rain.
- *3: **NOx (nitrogen oxide)**: This substance is mainly generated by a combination of nitrogen and oxygen in the air by incineration at high temperature. It causes acid rain and photochemical smog.
- *4: **COD (chemical oxygen demand)**: An index used to show water contamination. It indicates the amount of oxygen that is consumed when water contamination (consisting mainly of organic contaminants) is oxidized by an oxidizing agent. The larger the value is, the more serious the water contamination is.
- *5: **BOD (biochemical oxygen demand)**: An index used to show the amount of oxygen in water consumed by microorganisms to decompose the organic matter in water. The larger the value is, the more serious the water contamination is.
- *6: **SS (suspended solid)**: One of the water quality indexes and the generic name of substances that stay suspended in water without dissolving. The larger the value is, the more serious the water contamination is.
- *7: **T-P (total phosphorous)**: The generic name of inorganic and organic phosphorous compounds included in water.
- *8: **T-N (total nitrogen)**: The amount of nitrogen in a variety of nitrogen compounds existing in water. Nitrogen is an essential element along with phosphorus that is required for the growth of fauna and flora. When wastewater that contains nitrogen flows into seas or lakes, eutrophication occurs, causing red tide.