

Environmental Report 2008

< April/1/2007 ~ March/31/2008 >



PIONEER MICRO TECHNOLOGY CORPORATION

- PIONEER CORPORATION OPTICAL DISC DEVELOPMENT CENTER
- PIONEER DISPLAY PRODUCTS CORPORATION YAMANASHI PLANT



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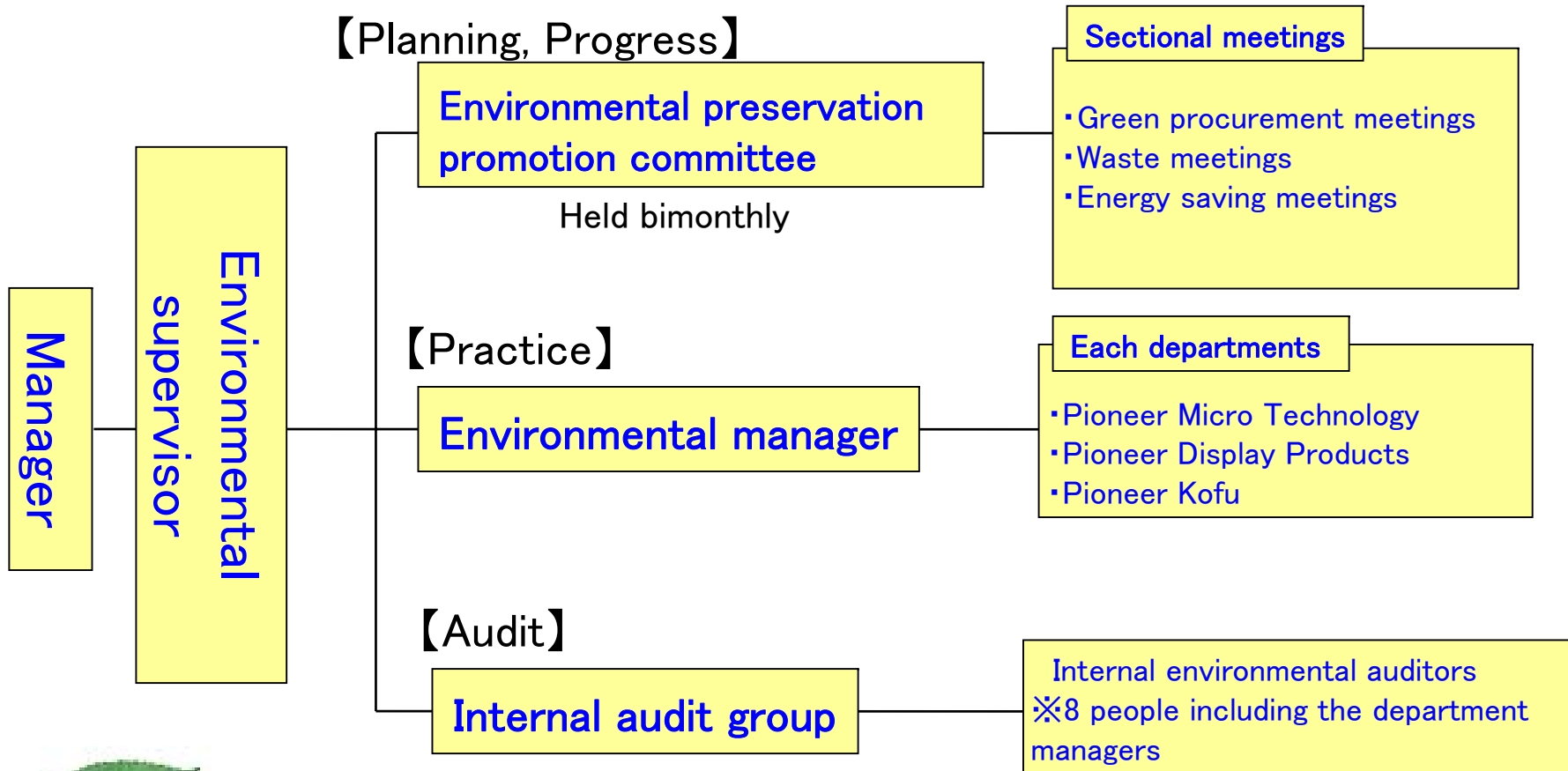


History of Environmental Activities

- 1977/October : **Semiconductor Labo, Pioneer(co.)** established.
- 1981/April : Started **developing semiconductors** only for internal (Pioneer) products.
- 1985/October : The semiconductor business was moved to Pioneer Video (co.).
Started selling semiconductors to external customers.
- 1994/January : **ISO9001** certified.
/April : **Tokyo Sales office** opened.
- 1998/July : **ISO14001** certified.
/November : **Joint recycle of garbage** started.
- 1999/September : Started **exchanging information** with other certified companies.
- 2001/January : **'Six inch line'** was added to the production line.
- 2002/October : **Achieved Zero Emission** (recycling rate over 99%)
- 2003/March : Became SONY 's green partner.
/April : **Pioneer Micro Technology (co.)** established.
- 2004/August : Boiler fuel changed **from heavy oil to gas**.
- 2007/February : Introduced **Photovoltaic Power Generation System (Solar Energy)**



Environmental Management Organization



Environmental Policies

Philosophy of Environmental Preservation

We will make efforts to always contribute to maintaining and realizing the rich and safe global environment through our corporate activities, based on the general understanding that it is one of our corporate missions to maintain, improve, and hand over the global environment to the next generation.

Policies of Environmental Protection

1. We will conduct Product Assessment concerning from the production process to the disposal activities when developing and designing semiconductors. We will make efforts to reduce the negative impact its activities on the environment, such as reduction of chemical substances, natural resource saving, energy saving etc., and strive towards producing new environment-friendly products.

1)Production

- Promotion of reducing chemical substances that have the great environmental impact.
- Promotion of efficient electricity usage on air-conditioners and production lines.
- Promotion of recycling and efficient usage of natural resources for reducing waste materials.

2)Design

- Promotion of high density products and the miniaturization technology for natural resource saving.
- Promotion of developing products with lower power consumption
- Promotion of developing products with less hazardous chemical substances.

3)Purchase

- Promotion of Green Procurement for products and materials.
- Promotion of Green Procurement for business tools and stationary.



2. We will establish goals for company-wide and respective divisions. We will make efforts to improve continuously its environmental preservation system and the activities.
3. Not only abiding by the environmental laws and regulations, but also establishing voluntary control standards and work for the environmental conservation further more.
4. In case of emergency, exhaust air, drainage and chemical substances etc. will be prevented from giving the negative impact on the environment..
5. We will maintain the environmental management organization and conduct environmental education and public relation activities.
6. We will perform an internal audit and improve the environmental management system of voluntary control.
7. We will join activities with outside parties that contribute to the local community.
8. We will disclose the result of environmental activities.

President and Representative Director 植原 甲二

Intermediate Environmental Plan (2010)

- Energy Saving (reduction of the energy use) : **89.3%** reduction per product (1999 comparison)
- Reduction of Chemical Substances: **23.0%** reduction of PRTR materials, **21.0%** reduction of Poisons, **50.0%** reduction of CFC,PFC(2003 comparison)
- Recycle Rate : Continuation of Zero Emission (maintain over 99.5%)
- Reduction of Papers : **28.5%** reduction per person (1999 comparison)

Energy Saving

	2003	2004	2005	2006	2007	2008	2009	2010
Usage of Electricity	71%	76%	80%	84%	86%	87%	88%	89%

Reduction of Chemical Substances

	2003	2004	2005	2006	2007	2008	2009	2010
PRTR	0%	3%	7%	1%	13%	21%	22%	23%
Poisons	0%	7%	9%	14%	19%	19%	20%	21%
PFC,CFC,Halon	0%			10%	35%	36%	37%	50%

Recycle Rate

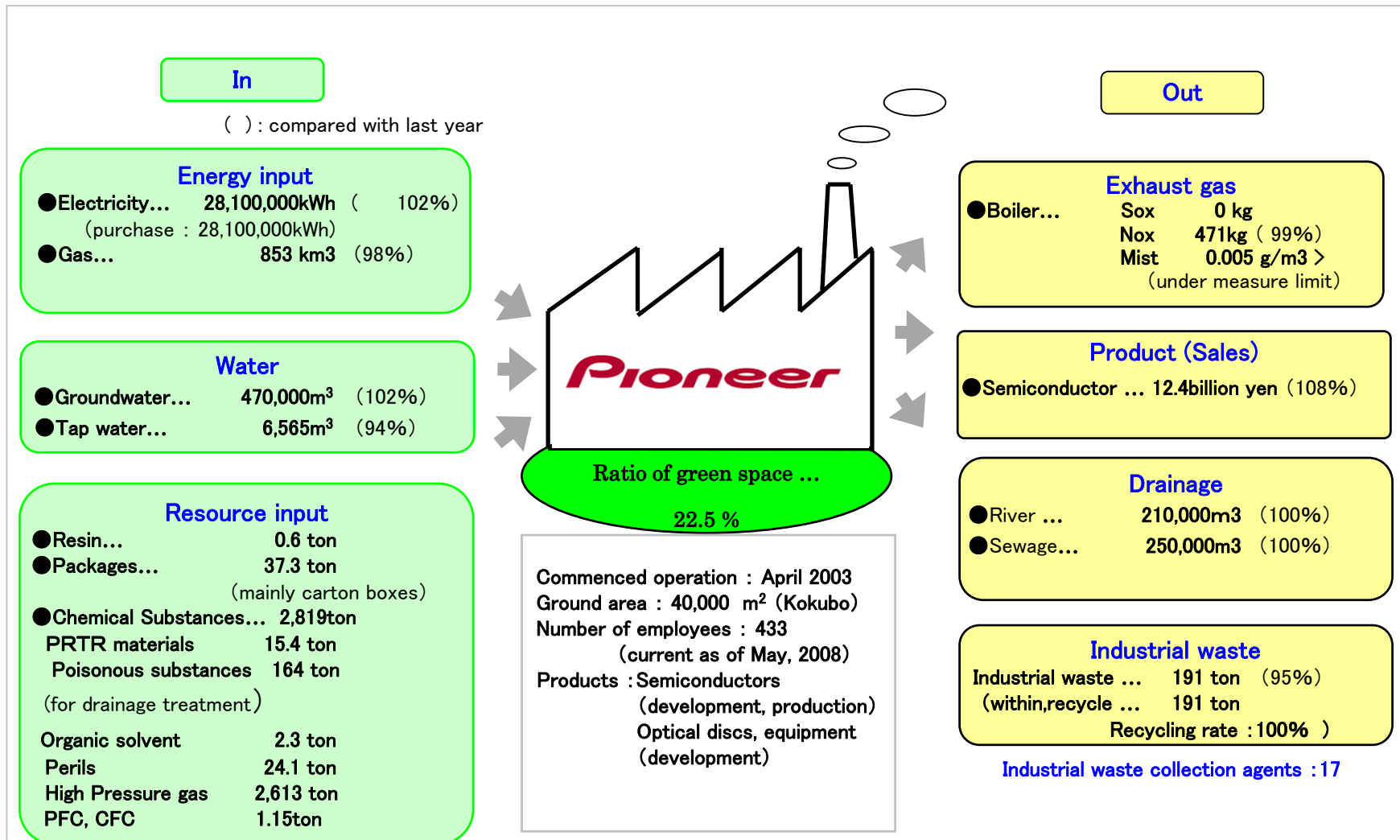
	2003	2004	2005	2006	2007	2008	2009	2010
Recycle Rate	99%	100%	100%	100%	100%	100%	100%	100%

Reduction of Papers

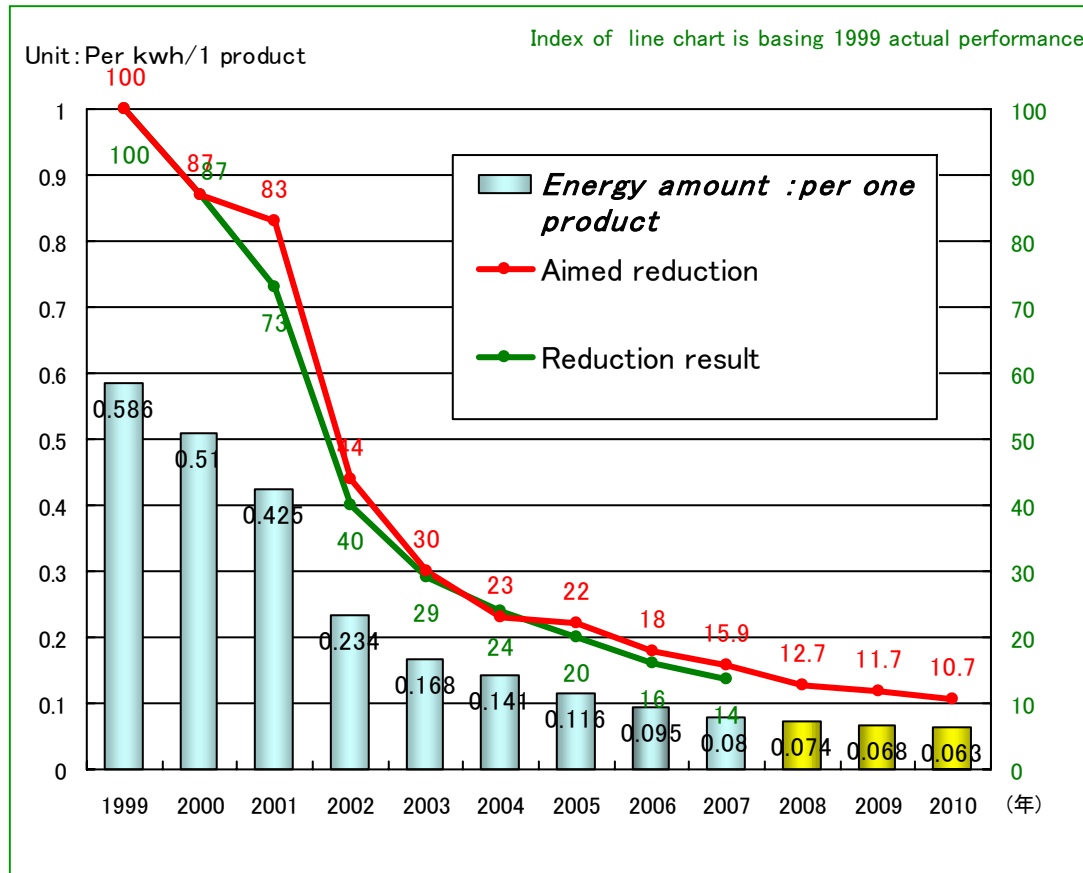
	2003	2004	2005	2006	2007	2008	2009	2010
Usage of papers	12%	14%	20%	24%	26%	27%	28%	29%

Material Balance

Actual result of 2007



Energy Saving

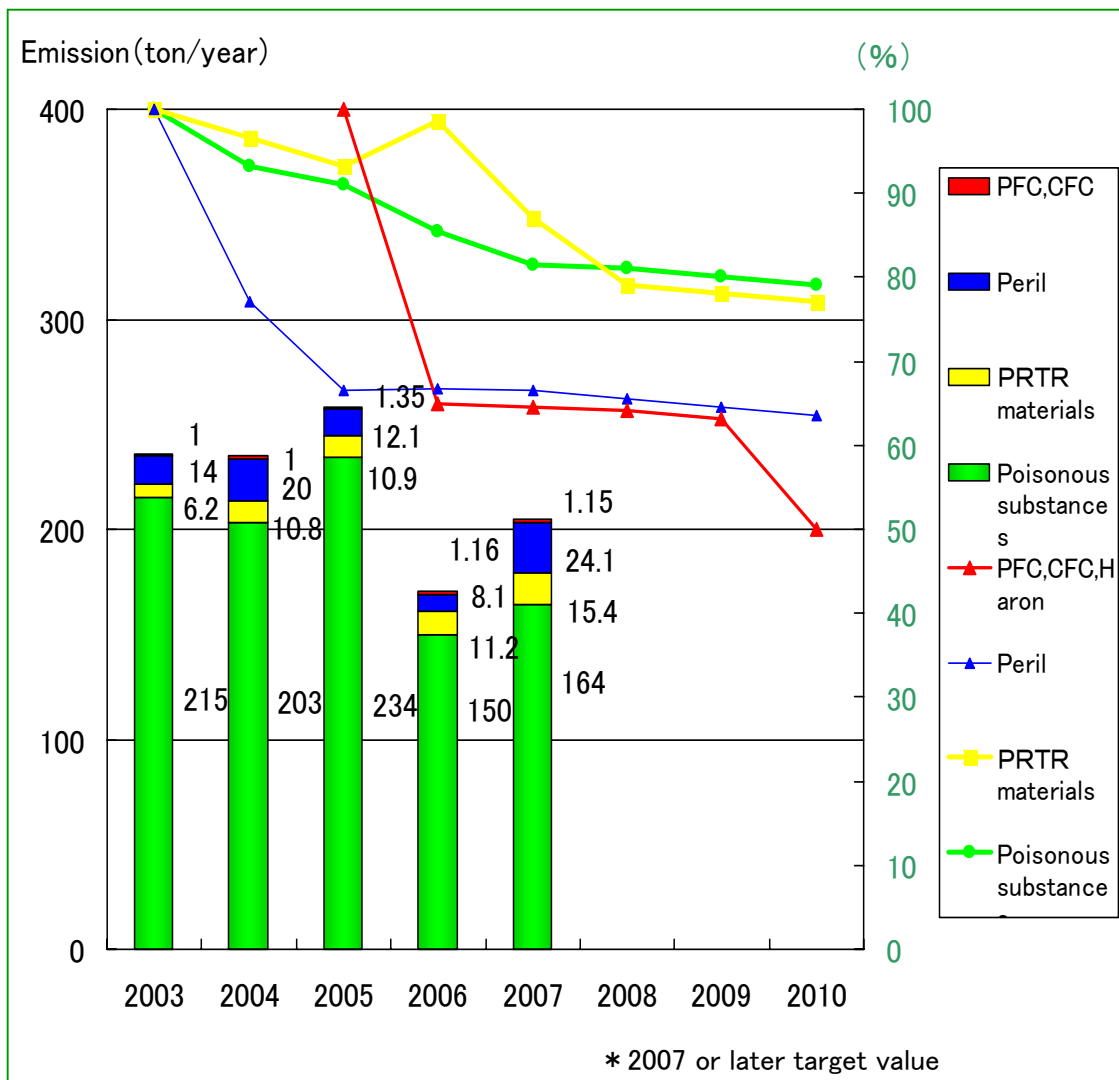


* 2007 or later is target value

Main Measures

- ◆ Energy saving for powered equipments
 - Introduced Eco machine
 - Solar Energy System (2006)
- ◆ Increase the yield rate and improve the productivity
- ◆ Stop energy waste
 - Stop PDP trial line and 4 inch production line
- ◆ Purchasing of liquid crystal monitors
- ◆ Lights out during the lunch break for all departments
 - Energy saving on OA equipments
- ◆ Energy Saving Education

Reduction of Chemical Substances

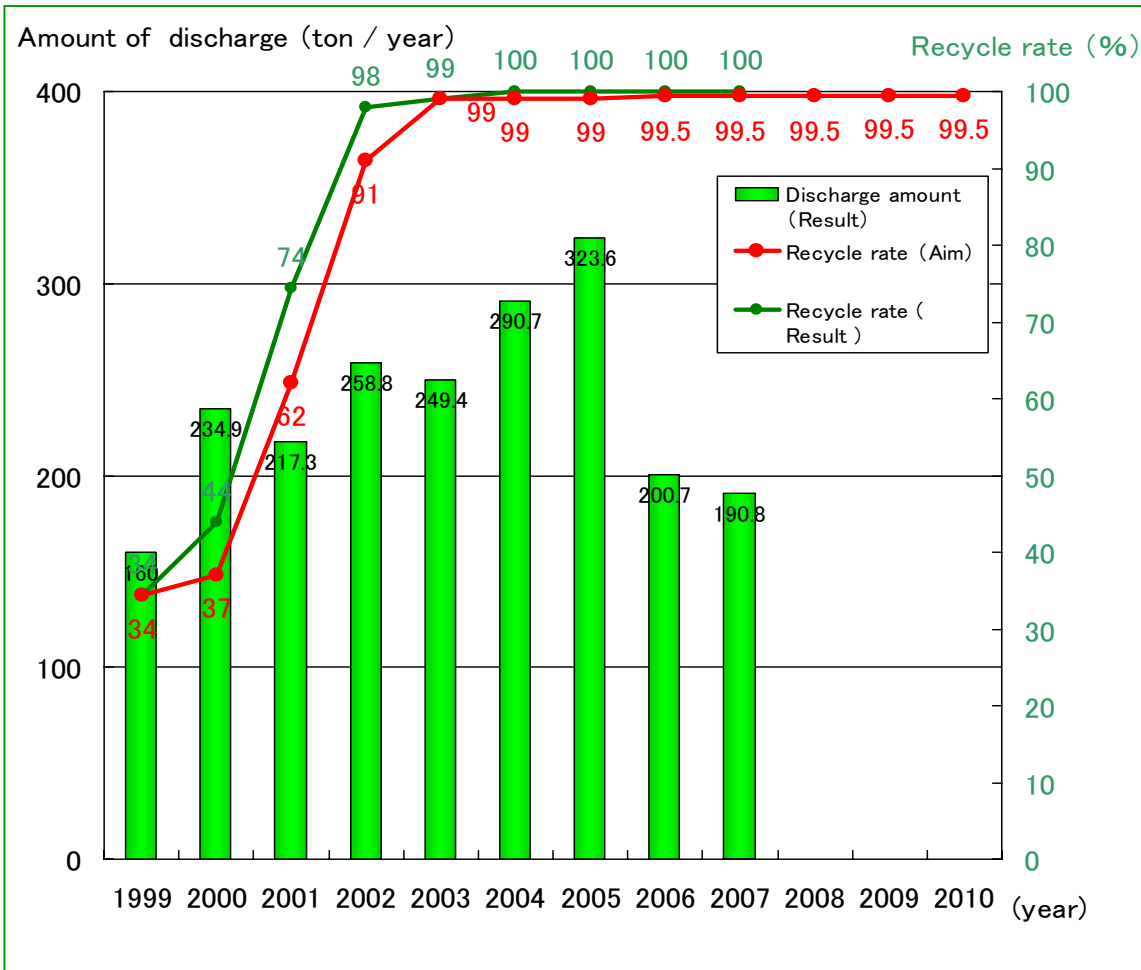


Main Measures

- ◆ Reduction of PRTR materials, Poisons, Perils and High Pressure Gas
- ◆ Increase the yield rate and improve the productivity to reduce PRTR substances (hydrogen fluoride/ peeling liquid)
- ◆ Reduction of poisonous substance (hydrochloride/sodium hydroxide) prevention of troubles at effluent treatment facilities

*2008 or later target value

Reduction of Waste Materials



* 2008 or later is target value

Main measures

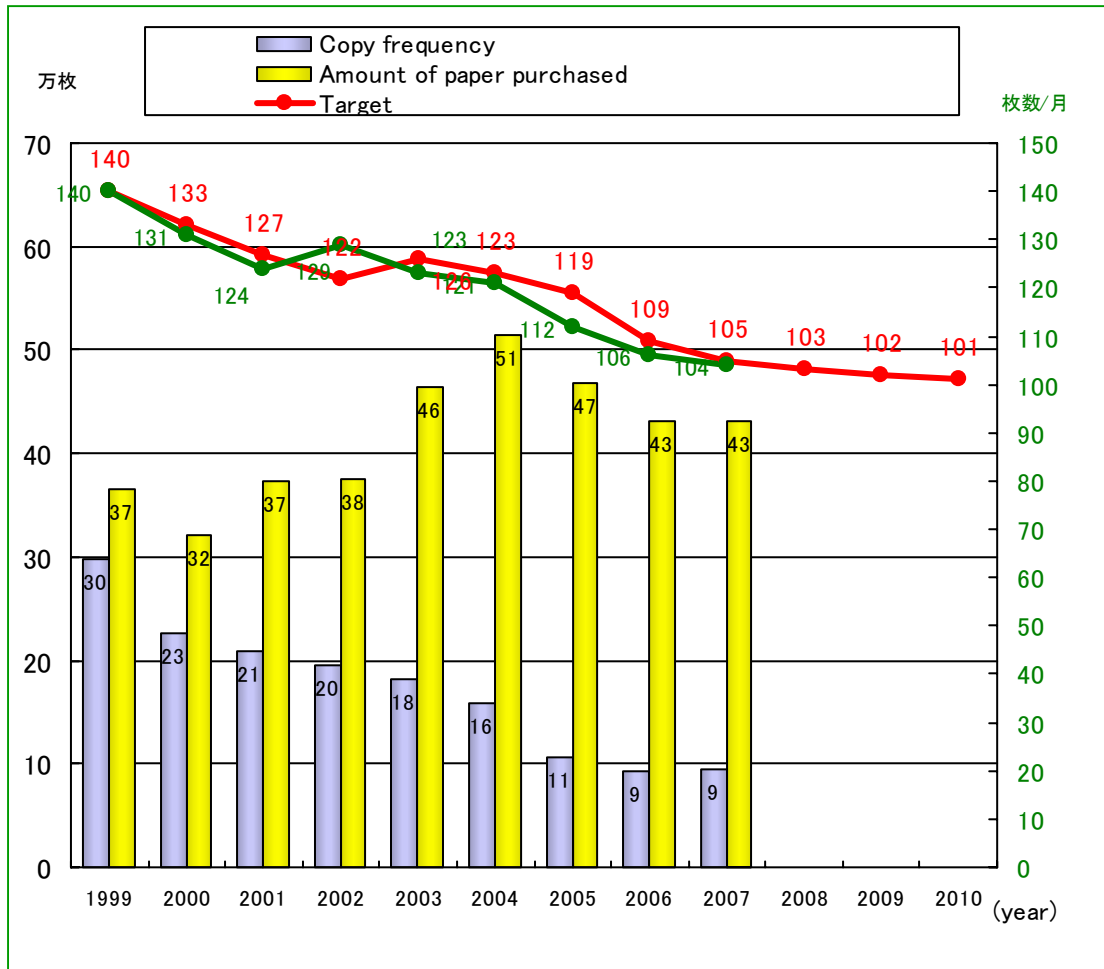
- ◆ Promote Zero Emission
 - Recycle and treatment
 - Research on industrial waste collection agents

- ◆ Improve the yield rate in production and reduce waste discharges

- ◆ Strict separation of trash in all departments

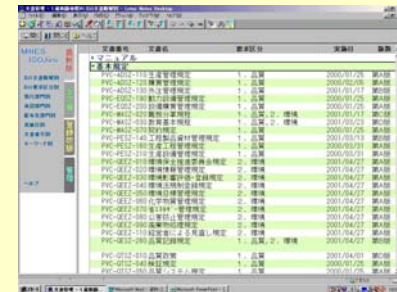
- ◆ Promote education about reduction of industrial waste materials

Reduction of Papers



Main measures

- ◆ Promotion of electronic document
 - Electronic documentation regulation (Rule 416 registered, March 2004)
 - Various hand out documents posted on the intranet
- ◆ Promotion on the use of both sides of papers
- ◆ Expanding the usage of e-mail
- ◆ Promotion on the use of data-projectors in meetings



Screenshot: A list of electronic documents

Product Development

	Reduction of Energy Consumption	Reduction of Chemical Substances	Downsizing, High density
Semi-conductor	<p>< Miniaturization of process design, Smaller packaging ></p> <ul style="list-style-type: none"> ▪ Development of H/H combo drive OEIC (Miniaturization of the design rule) ▪ Development of EL Driver IC (Miniaturization of the design rule) ▪ Development of 0.35 μ m process 		
DISC		<ul style="list-style-type: none"> ▪ Reduction of resin materials for DVD-R dual disc ▪ Reduction of optical disc materials 	<ul style="list-style-type: none"> ▪ High density DVD-R disc



Downsizing IC



Reduction of resin materials disc

Environmental Audit Results

Environmental audit has an important role in effectively utilizing the environmental management system and making improvements upon it.

There are eight internal environmental auditors who audit the observance of laws and regulations, the environmental management records, the progress of environmental education and effectiveness of the environmental management system.

And once a year, we are investigated objectively and specially by the third party (Japan Audit and Certification Organization for Environment and Quality (co.)) on our efforts toward protecting the environment.



Internal Environmental Audit

Subject: 7 departments
including environmental management supervisor

Date of audit: once a year
(during February 13 th to 27th)

Result: 0 case of incompatibility
All incompatibility has been corrected

Investigation by Japan Audit and Certification Organization for Environment and Quality

We were performed the renewal investigation this time.

Date of audit : June 21–June 22 ,2007

Outcome: ‘Passed’
✕Observation 3

Environmental Information Management

Registered number	Section				Environment Information Title of case	Information provided/origin
	c o m p l a i n t s	r e q u e s t	r e s e a r c h	o t h e r s		
2007-1			○		Questionnaire on final disposal place of waste	Environmental management organization of Yamanashi pref.
2007-2			○		Preliminary survey of energy statistic survey (Tentative)	Ministry of Economy, Trade & Industry
2007-3			○		Notification of output of PRTR	Ministry of Economy, Trade & Industry of Yamanashi pref.
2007-4			○		Survey on VOC (Volatile organic compound)	Pioneer (co.);Department of social surroundings
2007-5			○		Questionnaire on approach for waste management by workers	Forest environmental management section of Yamanashi pref.
2007-6			○		Real condition survey on use and manufacturing of packaging container	Ministry of Economy, Trade & Industry
2007-7			○		Investigation on CSR/Environmental management	Engineering division of Yamanashi University
2007-8			○		Questionnaire on handling of PRTR objected substance in 2007	Ministry of Economy, Trade & Industry
2007-9			○		JAITA "Survey of used amount of Fluoro solvent	Pioneer (co.);Department of social surroundings
2007-10			○		evaluation on photovoltaic power generation field test project	New energy industrial technology integrated development organization
2007-11			○		Survey on approach for 3R	Ministry of Economy, Trade & Industry

We had a total of ten environmental information in 2007

(Below extract comes from the administration table)

Concerning matter: 11 cases

- Complaints : 0
- Inquiry from the customers : 0
- Inquiry from the government : 8
- Other groups/associations : 3



Laws and Regulations	Subject	Main requirements
Air pollution control law	Boiler	Notification, compliance with emission standard, measure, record
Water pollution control law	Water discharge into the river	Notification, compliance with emission standard, measure, record
Sewerage law	Sewage discharge from a certain facility	Notification, compliance with emission standard, measure, record
Industrial Water law	Ground water	Notification, measure the usage of water, record
Factory location law	Production factory	Notification when it changes, compliance with general standard
Energy saving law	The first category of energy management designated plant	Selection & notification of a manager, periodic report
Waste disposal law	Industrial waste, industrial waste to special control	Compliance with storage standard and, making the account ledgers
Pollution control organization law		Notification and selection of Pollution prevention manager
Electric appliances recycle law	Five appliance items being used in the work shop	Proper disposal of waste
Freon collection destruction law	Kokubo works	Proper disposal of waste
Construction materials recycling law	Kokubo works	Mandatory recycling, scrapping segregation
Soil pollution control law	Kokubo works	Soil investigation when plant is closed
Food recycling law	Company cafeteria in the work shop	Emission amount management, promotion of recycling
Law to promote global warming countermeasures	Kokubo works	Emission limitation, manifest, disclosure of work performed
Poisons law	Usage of poisonous material (sulfur acid, ammonia)	Handling, displaying and accident measures
PRTR law	The first class designated chemical substance handler	Understanding of the emission amount, notification
Occupational health and safety law	Organic solvent, specified chemical substance	Selection of operation chief, preventative measures
Fire protection law	Usage of dangerous object warehouse and the fourth grade dangerous objects	Management within the assigned number
High pressure gas safety law	High pressure gas, specified high pressure gas	Selection of chief engineer, compliance with the plant standard
Pioneer environment policy	Kokubo works	Alignment of environment policy
RoHS directive	IC used for the specific products	Restriction on hazardous substances
ELV directive	IC used for cars	Prohibition from hazardous substances
WEEE directive	IC used for the specific products	Reduction of waste electric products
Yamanashi Livelihood protection regulation	All employees	Training, education
Green purchasing law	Duty for companies and people	Green procurement, promotion

※.There has never been a violation of these regulations, or a court case.



Newly Acquired Qualifications

15 people newly achieved qualification

Qualification name	newly acquired	Total holders
Manager in charge of pollution control (Air, Water quality)	0	8
Energy manager	0	3
Boiler operator	1	8
Head electronic engineer	0	1
Hazardous substances, Harmful materials engineer	2	71
Organic solvent operation chief	7	77
Special chemical material operation chief	3	45
X-ray operation chief	0	2
Toxic material handler in charge	0	2
Specified high pressure gas operation chief	1	27
Chief administrator of industrial waste subject to special control	1	3
High pressure gas operation chief	0	5
TOTAL	15	252

Activity Topics

1/6

Local Community



photovoltaic power generating system Observing Meeting(2007.2)

Activity Topics

2/6

Local Community



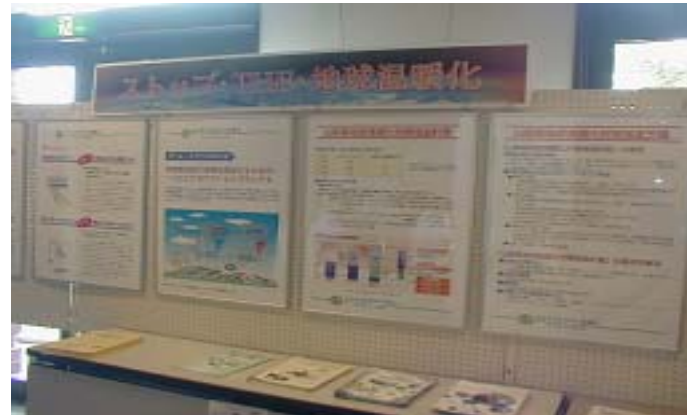
Picking up trash around the factory (2007.5.30)



Dishes reuse activity on summer festival (2007.7)



Picking up trash around the factory (2007.11.15)



'STOP THE Green house effect campaign' in Yamanashi pref. (2007.6)

Activity Topics

Communication



Study session with the neighboring enterprises
(2007.5)



Study session with the neighboring enterprises(2008.1)



	Date	Subject	Place
No.36	May,2007	solar light generating system Observing and waste control table	MTC
No.37	Sep,2007	Study session on ISO survey	CASIO in Kofu
No.38	Jan,2008	Study session on environmental facility observing and waste	PDP corporation

Activity Topics

4/6

Risk management



Top Managers Patrol (2007.6.7)



Waste disposal site inspection (2007.12)



Fire drill (2007.11)



Activity Topics



Education for new members (2007.4)



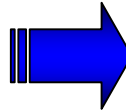
Energy saving education (2007.7.23)

Training record

	Topics
April	Education for new members Environmental study session with certified companies
May	Green Procurement Education Environmental study session with companies
June	EMS education (May to June)
July	Factory study by Energy Saving Group
August	
September	EHS Auditors Training
October	JACO ISO seminar EHS Auditors education course for 2 days
November	Green Procurement Education (PEC)
December	REACH seminar
January	
February	EMS Auditors Training
March	Green Procurement Education (PEC)

Activity Topics

6/6



Light OFF the Sign of PIONEER(2007.6)



Won prize at 'STOP Green house effect campaign' in Yamanashi (2007.12)



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