Pioneer sound.vision.soul

PIONEER GROUP ENVIRONMENTAL REPORT HIGHLIGHTS 2007

Contents

Corporate Philosophy and Policies for Environmental Protection 2

Global Environmental Problems 3

Pioneer's Environmental Impact 3

Reduction of Direct Environmental Impacts 4

Environmentally Conscious Products 9

Reinforcements of Sustainable Management 13

Environmental Communications 14

Corporate Profile

■Company

PIONEER CORPORATION

■Headquarters

1-4-1 Meguro, Meguro-ku, Tokyo 153-8654, Japan

■Phone

+81-3-3494-1111 (main number)

■President

Tamihiko Sudo

■Founded

January 1, 1938

■Established

May 8, 1947

■Main businesses

Home electronics
Car electronics
Other
Patent licensing

Home theater systems

Car navigation systems

■Capital

49,049 million yen (as of March 31, 2007)

■Operating revenue (consolidated)

797,102 million yen (as of March 31, 2007)

■Number of employees (consolidated)

37,622 (as of March 31, 2007)

CORPORATE PHILOSOPHY AND POLICIES FOR ENVIRONMENTAL PROTECTION

Philosophy of Environmental Preservation

The Pioneer Group 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.

Basic Policies of Environmental Preservation

1. Compliance with Laws and Regulations

The Pioneer Group will comply with all applicable laws and regulations, and agreed requirement items in connection with environmental protection, and when necessary, establish voluntary control standards to reduce the negative impact of its activities on the environment.

2. Preservation of Environment

The Pioneer Group will cease the use of, adopt substitute substances for, or restrain the discharge of, substances that are harmful to the environment such as those which contribute to the depletion of the ozone layer or global warming and other toxic chemicals, and while taking into account of the effect on the ecological system, thereby reduce the negative impact of its activities on the environment and prevent contamination on the environment at the same time.

3. Development of Environment-friendly Products

The Pioneer Group will examine the negative impact on the environment of the process from the procurement of materials and parts of the products to the ultimate disposal thereof, and conduct "Product Assessment" in the course of its research and development activities, and will properly reduce the substances contained in the products that are harmful to the environment and develop new environment-friendly technologies to reduce the negative impact of such products and technologies on the environment.

4. Management by Goals

The Pioneer Group will establish goals in order to reduce the negative impact of its activities on the environment, such as natural resource saving, energy saving, recycling, reduction of waste material etc., and will make efforts to achieve those goals.

5. System Promoting Environmental Protection

An All-Pioneer system that contributes to the promotion of environmental protection will be established under the leadership of the officer in charge of the Environmental Management Group of Pioneer Group Headquarters. For such purpose, each division will establish corresponding organizations and optimize the environmental management system.

6. Training

The Pioneer Group will educate all its employees with regard to environmental protection, including notification of policies of environmental protection. In addition, specialized training will be given to employees when necessary.

7. Continuous Improvement

The Pioneer Group will continuously maintain and improve its environmental management system and protection activities by understanding its activities and conducting appropriate measures in accordance with the results of environmental audits.

8. Disclosure

The Pioneer Group will disclose its policies of environmental protection, goals and results of its environmental protection activities, to the public by use of its environmental reports, and thereby make efforts to facilitate communications with outside parties.

Environmental Protection Highlights

Highlight 1 Reduction of Direct Environmental Impacts

- Global Warming Prevention
- Efforts to Reduce Environmentally Hazardous Substances
- Waste Recycling and Green Purchasing

Highlight 2 Environmentally Conscious Products

- Development and Provision of Environmentally Conscious Products
- Various Global Warming Prevention Measures
- Natural Resources Recycling
- Efforts to Reduce Environmentally Hazardous Substances

Highlight 3 Reinforcement of Sustainable Management

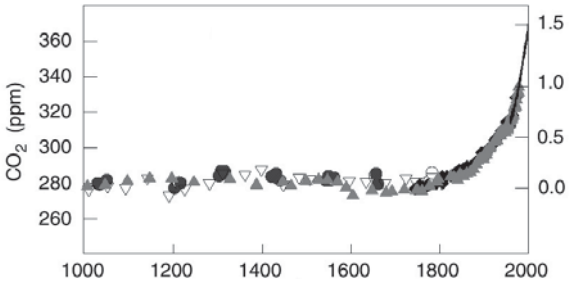
- Sustainable Management Concept and Efforts

Global Environmental Problems

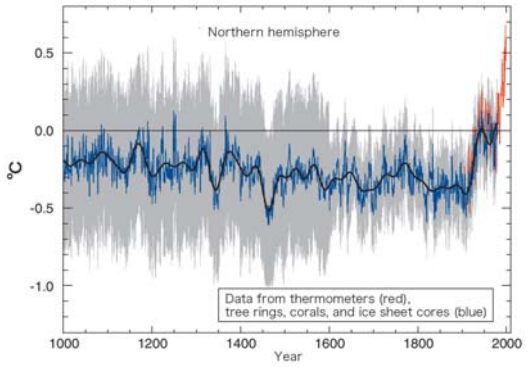
Pioneer's philosophy is to "Move the Heart and Touch the Soul." In order to live and work in accordance with this philosophy, it is a natural prerequisite that our rich global environment be preserved and that people be able to live with a sense of security. However, as the film "An Inconvenient Truth"* warns, in reality the global environment is facing a crisis and we have many problems, such as global warming, ozone layer depletion, and the exhaustion of natural resources. As shown in the graphs on the right, the increase in CO_2 is connected with an increase in the average temperature. According to the IPCC 4th Assessment Report, global warming is caused by this CO_2 increase. We are discovering that recent climates are somehow different from what they used to be, as typified by the frequent disasters due to localized torrential rains and typhoons, and warm winters and cold summers, and we now think about extreme weather more frequently than ever before.

This is the time for us to view global warming prevention measures as an important task, to set goals, and to steadily implement activities, step-by-step, towards those goals.

* "An Inconvenient Truth" is the documentary film featuring the efforts of former U.S. Vice President Al Gore in tackling the global warming problem. This film won Oscars at the 79th Academy Awards in two categories.



Changes in carbon dioxide emissions
CO_2 emissions have increased steeply since the Industrial Revolution.



Deviation from the average temperature of the period 1961 to 1990
The temperature rise since the beginning of the 20th century far exceeds those temperature variations from earlier periods.

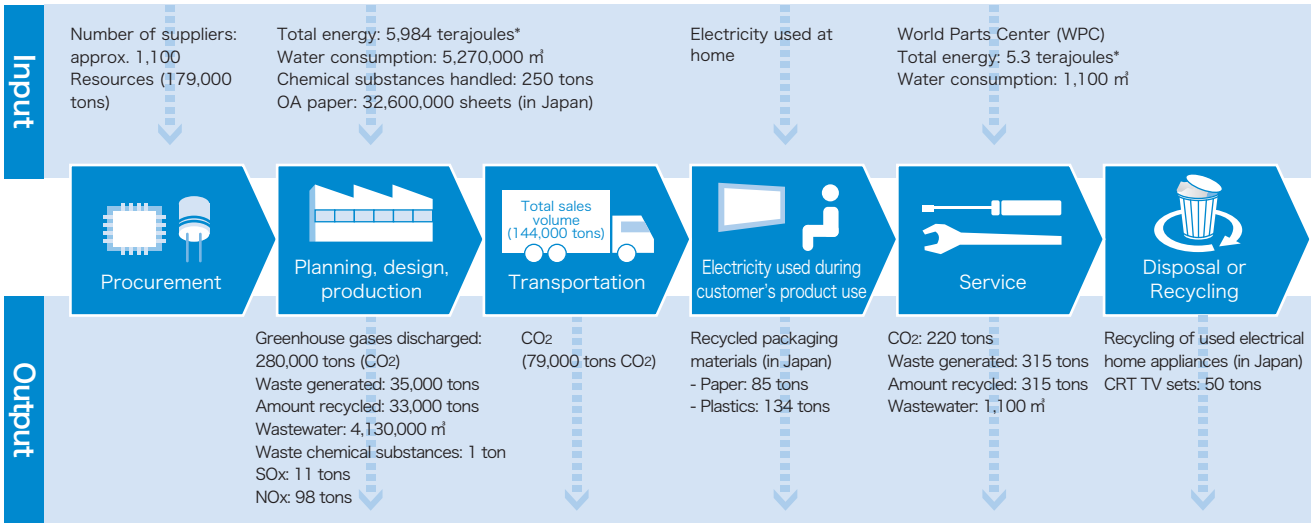
Source: Meteorological Agency (IPCC 3rd Assessment Report)

Pioneer's Environmental Impact

The lifecycle of Pioneer products includes planning, design, and manufacturing, all before delivery to the customer as finished products, as well as final disposal or recycling after the product's service life has ended. It is inevitable that the environment will be impacted in various ways at each stage of the process. Pioneer continues to pay close attention to reducing its environmental impact as much as possible.

Figures in parentheses are approximate, based upon estimates

* Tera is defined as 10^{12}



Global Warming Prevention (1)
Reducing the Discharge of Greenhouse Gases

Prevention of global warming is a company mission.

The Kyoto Protocol to beginning in 2008, Japan has set a target of reducing CO_2 emissions by 6% from the level discharged in 1990. However, the reality is that Japan's total emissions have increased since 1990 by approximately 8%, a level that is approximately 14% above the reduction target.
The whole country, including the government, businesses, and homes, needs to take specific measures to reduce all CO_2 emissions in order to achieve its national target. Recently, a growing number of digital systems have been brought to the market. The manufacturing of products related to those devices accounts for a large proportion of CO_2 emissions and thus can be attributed to the increase in CO_2 emissions. The electric and electronic industries have formulated their own environmental voluntary action programs and been striving to achieve their program goals.
Pioneer has participated in the voluntary action program of Nippon Keidanren (Japan Business Federation), and has been involved in the efforts to achieve "reduction of CO_2 emissions per unit of actual production* by 28% from the FY1991 level by FY2011," which is the target of The Electric and Electronic Industries. In addition, the company has also been working to reduce its total emissions.

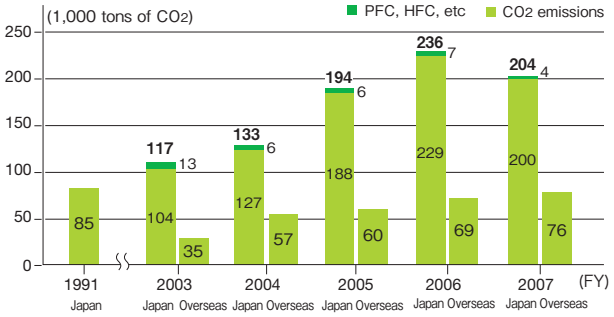
* Actual production is calculated by dividing the fiscal year production by the Bank of Japan domestic corporate goods price index for electrical equipment (0.486 for FY2007).

Reducing CO_2 emissions

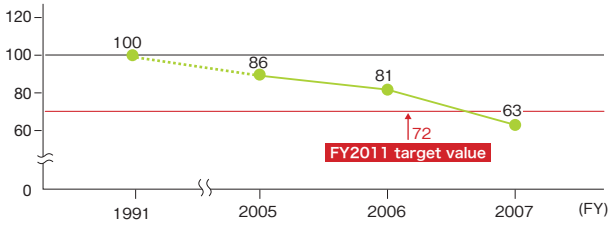
By grappling head on with energy consumption reduction at its production facilities, Pioneer is striving to reduce its CO_2 emissions. In 1990, which is the base year for measuring emissions reduction, plasma televisions were not yet being manufactured. Production of those TV sets, however, has recently grown and has thereby increased CO_2 emissions. Pioneer has been working to reduce its CO_2 emissions by 43% from the FY1991 level for existing products other than plasma TV sets. For all businesses that include plasma TV sets, Pioneer has been working to achieve a 28% reduction by FY2011 from the FY1991 level in CO_2 emissions per unit of actual production.*

* CO_2 emissions per unit of actual production is measured as the level of CO_2 emissions (tons of CO_2) divided by the actual production (in millions of yen).

●Changes in Greenhouse Gas Emissions



●Changes in CO_2 emissions per unit of actual production (with a 1990 index of 100) in Japan



In addition, we are working toward reducing greenhouse gas emissions other than CO_2.

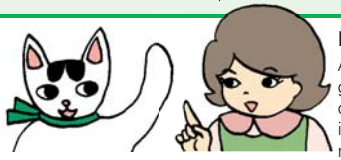
Pioneer is also strengthening its efforts to reduce greenhouse gas emissions other than CO_2, such as PFC* and HFC*, which are both used in the production process, by converting their emissions into CO_2 emissions and installing preliminary exclusion treatment systems in the production lines.

* PFC: perfluorocarbon
* HFC: hydrofluorocarbon

What are PFC and HFC?

PFC and HFC are chlorofluorocarbon alternatives. They do not deplete the ozone layer because they contain no chlorine. PFC and HFC are used as air conditioner refrigerants, as well as for cleaning parts. However, some of the PFC and HFC gases have greenhouse effects thousands of times greater than CO_2. PFC and HFC are subject to the Kyoto Protocol and the Law Concerning the Promotion of Measures to Cope with Global Warming. Therefore, efforts to reduce their emissions are required.

Spi-maru
A cool smart cat who is also familiar with environmental problems.



Pio-chan
An elementary school girl with a strong sense of justice. Her pastimes include singing and napping.

Spi-maru and Pio-chan are characters in an educational cartoon, "Environmental Treasure Box," on Pioneer's Japanese environmental website, who help explain environmental terms.

Global Warming Prevention (2)
Effective Energy Usage

Pioneer has begun efficient power generation using a photovoltaic system.

Pioneer Micro Technology Corporation (MTC) in Yamanashi Prefecture began generating power on March 14, 2007, using a photovoltaic system as part of a field-test project for new photovoltaic technologies.* This photovoltaic system uses a hybrid (single crystal + amorphous) HIT solar cell that efficiently generates electricity and has a generation capacity of 150 kW. Yamanashi Prefecture is recognized as having the longest annual daylight hours in Japan, and it is regarded as an optimal location for photovoltaic power generation. This is the second largest facility in Yamanashi Prefecture. Micro Technology Corporation expects that this photovoltaic system will produce electricity annually at a rate of 154,000 kWh, which will contribute to a CO_2 absorption of approximately 16 ha in the region's forested area.

* The field-test project for new photovoltaic technologies is a joint research project with the New Energy and Industrial Technology Development Organization (NEDO). The organization is a support system aimed at new technological development and construction cost reduction in an effort to promote the adoption of photovoltaic systems at industrial facilities.

Hybrid photovoltaic generation panels

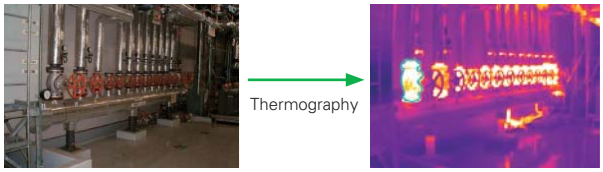
Pioneer Display Products Corp.'s Yamanashi Plant introduced NAS batteries, which have a lower environmental impact.

NAS batteries

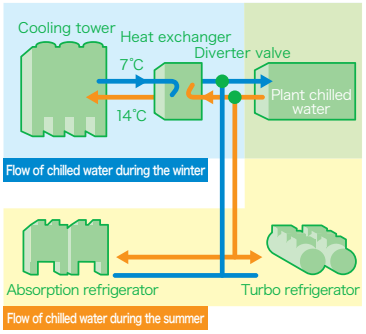
In September 2004, the Yamanashi plant of Pioneer Display Products Corporation (DPC), Pioneer's plasma panel production facility, introduced NAS batteries, which store electricity through a chemical reaction of sodium and sulfur. Because the batteries can store electricity during the night for use during the day, the power consumption that was formerly concentrated in the daytime has now been leveled, which will eventually decrease environmental impact. In addition, electric power stored at night can now be made available for emergency use and may serve as a highly reliable non-interruptible power supply unit. Display Products Corp. originally used diesel engines for its standby emergency power generation; as compared with that system, the new battery system can save some 20,000 tons of CO_2 per year. Another advantage of the NAS battery is small size, which requires a smaller installation area. This advantage can be used by DPC in promoting the greening of the plant's compound.

Energy savings by thermal diagnosis using thermography

The Yamanashi plant of DPC has also adopted a thermography diagnosis system in order to identify high heat radiating areas. These include continuously running furnaces, baking furnaces, and steam pipes around the boiler house header, and their identification can lead to improved heat insulation methods such high heat radiating areas, which will then reduce CO_2 emissions by 85 tons per year.



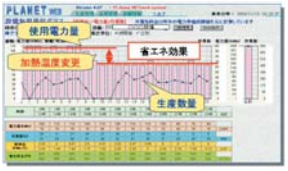
Free cooling with natural energy



Tohoku Pioneer Corporation's Yonezawa plant has introduced a free cooling system that makes effective use of climatic characteristics and applies natural energy to the production of chilled water that is then used as a coolant in air conditioners and production equipment. By producing chilled water using wintertime's cold air, this free cooling system enabled the plant to achieve a reduction of 869 tons of CO_2 during the winter of FY2007.

Using the production equipment basic unit management system to promote energy saving activities

Pioneer Plasma Display Corporation (PPD) has established a management system using the production equipment energy consumption for a basic unit to effectively save energy. This system keeps track of the number of input products and the power consumption per hour in real time, and then calculates the electrical energy required by manufacturing equipment to produce one product (production equipment basic unit), thereby allowing PPD employees to share this information via the intranet. With this system, PPD is now able to easily forecast and know the fluctuating electricity consumption and fixed electricity consumption that relate to production fluctuation, and to take fine-tuned energy-saving measures for production equipment.
Improvement of the production equipment basic unit has made a significant contribution to overall energy savings.



PLANET WEB window

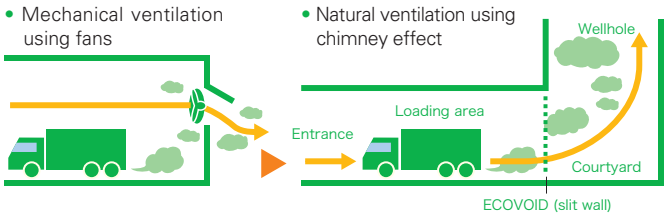
The Kagoshima plant at the PPD head office

Global Warming Prevention (3)
Energy-Saving Efforts at the Kawasaki Plant

Various energy saving ideas

The Kawasaki Plant, completed in April 2007, is a design and development base for home electronic products, such as plasma TV sets and DVD recorders, and a large number of engineers have been working on energy saving ideas for products, as well as environmental impact reduction at the plant. In building this plant, various (ideas) were adopted in order to reduce the plant's energy consumption during daily activities there. The plant embodies the Pioneer philosophy, which gives careful consideration not only to reducing the environmental impacts of products but also to the energy consumption of daily activities in its plants.

A natural exhaust system using the chimney effect of the loading area



Ordinary loading areas require fans to ventilate the exhaust gas from trucks within the area. The Kawasaki plant has replaced the exhaust system in its loading area with a natural exhaust system that uses a chimney effect by connecting the vehicle entrance/exit with the wellhole. This new system eliminates the need for a mechanical exhaust system using fans and thereby reduces power consumption.

Reducing air conditioning energy

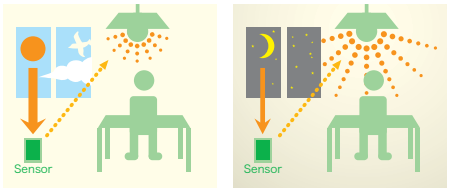
The plant uses an ice thermal storage system for its office area air conditioner. This system produces ice at night when energy consumption is low, and then it uses the ice for air conditioning during the daytime, thus reducing power consumption. In addition, other executive offices use total heat exchangers that reuse the heat discharged from warm rooms during wintertime heating, thus further reducing air conditioning energy.

Adopting a building energy management system

The plant's equipment management office collects data on power consumption/utilization using a building energy management system (BEMS). Utilizing that data, the office employs power consumption management, including the daily monitoring of optimized operations that checks for the largest consumption division and analyzes data for further consumption reduction.

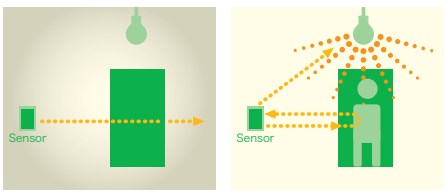
Applying appropriate illuminance with light sensors and controllers

Light sensors and controllers installed in the offices and laboratory can detect the illuminance level in those areas and control that lighting. For example, illuminance can be reduced indoors when it is bright enough outside to provide appropriate lighting, which reduces wasteful power consumption.



Lights-off controls in unattended rooms using human detection sensors

Human detection sensors are installed that turn lights off when a room is left unattended in order to reduce the unnecessary power consumption that occurs when someone has neglected to turn off the lights.



A bright canteen full of natural light through large windows

Other energy-saving facilities

- Thorough measures to shield western exposures and summer sunshine
- Operation of transformers with appropriate load factors
- Adoption of high-efficiency transformers
- Adoption of automatic power factor regulators
- Adoption of high-efficiency fluorescent lamps
- Adoption of water-saving sanitary fixtures

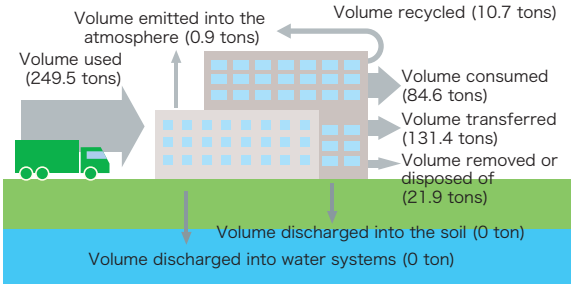
Efforts to Reduce Environmentally Hazardous Substances

Promoting the reduction of environmentally hazardous substances during the production process

Environmentally hazardous substances are used during the production process. To reduce the environmental impact of these substances, Pioneer has been striving to reduce emissions of such substances. The Pollutant Release and Transfer Register (PRTR) law requires companies to manage chemical substances appropriately. Pioneer has established internal goals and has been working to reduce the emissions of these substances. In addition, we have been working to reduce the emissions of volatile organic compounds (VOC) in accordance with the industry's voluntary action plan. As well, Pioneer has completely eliminated the use of ozone-depleting substances.

Raising the management level to comply with the PRTR law

Under the PRTR law, we are obliged to report to the government the amount of released or transferred chemical substances, starting with our FY2002 business activities. This reporting obligation applies to Class 1 designated chemical substances used in volumes of one ton or greater per year, and the ten substances indicated in the table were all subject to this obligation for Pioneer's FY2007 activities. The volume used decreased slightly from the previous fiscal year, and we reduced atmospheric emissions by 74% by controlling toluene use. We will continue to reduce our environmental impact by improving the management level of chemical substances.



●Results of the survey of substances subject to the PRTR law in FY2007 (in Japan)

Substances	Number of facilities	Volume used (tons)	Volume emitted to atmosphere (tons)	Volume transferred			Volume consumed (tons)	Volume removed or disposed of (tons)	Volume recycled (tons)
				Volume transferred as waste (tons)	Volume transferred to sewers (tons)	Total (tons)			
2-amino ethanol	3	46.9	0.0	3.5	28.7	32.2	0.0	14.7	0.0
Silver and its water-soluble compounds	3	19.5	0.0	5.7	0.0	5.7	3.2	0.0	10.6
Chromium and trivalent chromium compounds	1	1.8	0.0	0.3	0.0	0.3	1.5	0.0	0.0
Toluene	1	1.5	0.9	0.6	0.0	0.6	0.0	0.0	0.0
Lead and its compounds	3	164.4	0.0	89.3	0.0	89.3	75.0	0.0	0.1
Nickel	1	1.1	0.0	0.9	0.0	0.9	0.2	0.0	0.0
Pyrocatechol	1	1.2	0.0	1.2	0.0	1.2	0.0	0.0	0.0
Di-n-butyl phthalate	1	1.3	0.0	0.0	0.0	0.0	0.0	1.3	0.0
Hydrogen chloride and its water-soluble salts	1	5.9	0.0	0.0	0.0	0.0	0.0	5.9	0.0
Boron and its compounds	2	5.9	0.0	1.2	0.0	1.2	4.7	0.0	0.0
Total		249.5	0.9	102.7	28.7	131.4	84.6	21.9	10.7

Reduction of VOCs emissions

Pioneer has also been working to reduce the emissions of volatile organic compounds (VOCs) that are used in the production process. We aim to reduce emissions by 30% in FY2011 from the FY2001 level in accordance with the industry's voluntary action plan.
In FY2007, Pioneer reduced its emissions by 26% from the standard year, thus achieving a 17% reduction from the previous year. In continued efforts to reach our goal, we will study the use of alternative substances and will install preliminary exclusion treatment facilities.

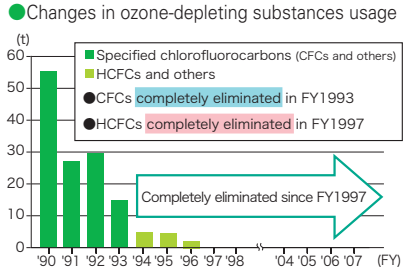
What are volatile organic compounds?

Volatile organic compounds, or VOCs, are causal chemical substances found in photochemical smog and the recently discovered sick building syndrome. Specifically, VOCs include toluene, xylene, and formaldehyde, and are used in paint solutions, adhesives, inks, and cleaning agents.

Complete elimination of ozone-depleting substances

As early as 1992, Pioneer had completely eliminated specified chlorofluorocarbons, which have high ozone depletion potential and use of which would be banned by international regulations in 1995, from the production processes of all group companies. In addition, by 1996, we had completely eliminated chlorofluorocarbon alternatives, such as HCFCs, use of which will be banned by international regulations by 2020, from the production processes of all group companies, by adopting a policy of cleaning with alcohol or not cleaning at all.

●Changes in ozone-depleting substances usage

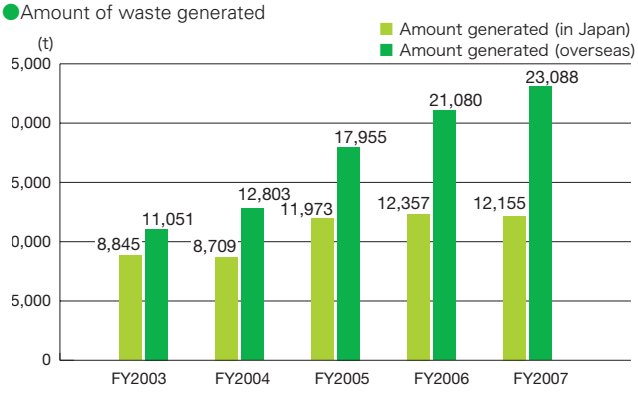


Waste Recycling and Green Purchasing

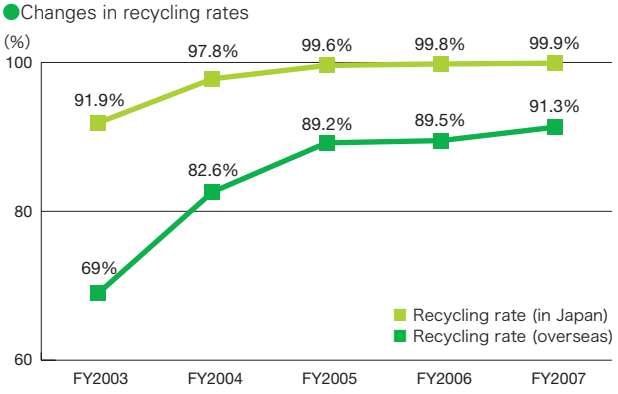
Working toward a goal of zero emission of waste at our facilities worldwide

Pioneer Group is working toward a goal of zero emission of waste at our facilities worldwide. In FY2006, we achieved this goal at all production-related facilities of our group companies in Japan, and we are currently striving to accomplish this at our overseas group companies.
- zero emission of waste - Pioneer's definition of this drive is the recycling of over 99% of facilities generated wastes, thus bringing our landfill disposal to almost zero.

●Amount of waste generated



●Changes in recycling rates



Amount of waste generated

The amount of waste that Pioneer generated in FY2007 decreased by 2% from the previous year in Japan, whereas that at overseas facilities increased by 10%. The reasons for this overseas increase include an increased production. However, the amount of waste disposed of in Japan decreased by 22% from the previous year, marking a substantial improvement. In the future, Pioneer will continue its efforts to reduce the amount of waste generated overseas.

Increased recycling ratio

With its recycling ratio in Japan being 99.9% in FY2007, Pioneer was able to match its previous year's zero emission of waste. That ratio was 91.3% at our overseas facilities. In the future, we will aim to further increase the recycling ratio and we will press ahead with our goal of zero waste emissions at our overseas facilities.

World Parts Center won the 3R Promotion Council Chairman's prize

In October 2006, the World Parts Center (WPC) of the Pioneer Service Network Corporation (PSN) received the Chairman's Prize from the 3R Promotion Council.
The purpose of this prize is to promote the 3R* initiative and raise consciousness about the initiative by commending individuals, groups, and business establishments that are actively working to promote the 3Rs and have made achievements through such continuous activities. The Pioneer Group is proud to have been awarded this prize for seven consecutive years. Our WPC was awarded the prize for promotion of resource recycling and reduction of packaging boxes purchased.

* 3R stands for reduce, reuse, and recycle.

Travel of paper for rebirth

- In case of Pioneer headquarters -

Pioneer also places a focus on reducing paper. In an example of resource circulation, the headquarters implements complete paper recycling by directly bringing its used paper to a paper manufacturer and then directly purchasing toilet paper that the manufacturer produces from that recycled paper. In FY2007 (April 2006 to March 2007), the headquarters purchased 175 cartons (48 rolls each) of toilet paper, which covered all the toilet paper used at the company headquarters.

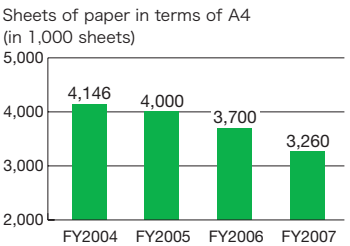
Green purchasing

The basic concept behind green purchasing is that we don't buy unnecessary things, we buy only necessary things, and when we do buy things, they must be environmentally friendly.
To promote green purchasing, Pioneer has set a 100% green purchasing target for certain items. This is a strict target without exceptions. In FY2007, Pioneer achieved its 100% green purchasing target with 9 out of 12 items assigned the target. In FY2008, to further expand this activity, we will add multi printers.
As for OA paper, we are striving to reduce our purchases to the previous year's level or below, based upon our policy of purchasing only necessary items.

●Items designated as a 100% green purchasing target

- OA paper
- Printers
- Toilet paper
- Office furniture
- Company vehicles
- Refrigerators
- Multi printers (since 2007)
- Copying machines
- Fax machines
- Personal computers
- Uniforms
- TV sets
- Electronic chalkboards

●OA paper purchases



The Development and Provision of Environmentally Conscious Products

Environmental friendliness is the core of Pioneer's product development.

The Pioneer Group has been pursuing environmentally conscious product design with a focus on reducing environmentally hazardous substances and preventing global warming. In particular, controlling CO_2 emissions, which are the major cause of global warming, is another focus for Pioneer as it works to improve its energy, resource, and transport efficiency during product manufacturing, and to reduce the power consumption required by the use of Pioneer products. In order to assess our environmental impact, we have adopted the life cycle assessment (LCA) method, and we have taken an efficient approach which is suitable for each process of products life cycle toward reducing environmental impacts. In addition, we have established Pioneer Environmental Label Guidelines, and only those products meeting the guidelines will bear the Pioneer Environmental Label.

The Pioneer Environmental Label reflects images of the Earth,the Environment, and Living in Harmony.

Compulsory Items (Products must meet all items)

1. Conduct the product assessment for environment.
2. To facilitate recycling, parts containing 20 grams of resin or more are labeled as such in accordance with ISO standards.
3. Specific brominated flame retardants said to release dioxins during incineration are not used.
4. CFCs, HCFCs and other ozone-depleting substances are not used at all in Pioneer's products or manufacturing processes.
5. All batteries are located so that they can be easily removed.
6. The volume of packaging materials used has been reduced by more than 20% from FY1991 levels.
7. Lead-free solder is introduced.

Optional Items (Products must meet one or more of these items)

1. Standby power consumption is reduced to 0.5W or less (however, CATV terminals are at 1W or less).
2. Styrene foam and other resinous packaging materials are not used.
3. Recycled materials are widely used in the products.

Energy savings and resource savings

Plasma TVs are equipped with a variety of energy savings capabilities and functions.

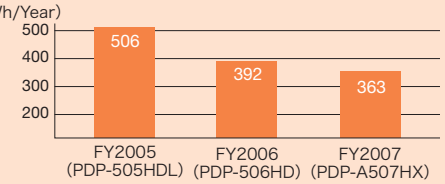
In order to reduce CO_2 emissions, it is necessary to lower overall power consumption, such as operational power consumption and standby power consumption. Pioneer reduced the annual power consumption of its FY2007 plasma TV model by approximately 30% from its FY2005 model. In addition, we have launched a number of other models with a standby power consumption of 0.1 W or less.

Our FY2007 plasma TV model realizes an annual power consumption of 363 kWh/year with its rated power consumption of 343 W with its new energy-saving panel, our "P.U.R.E. Black Panel," as well as other power-saving technologies, all of which together achieve a low power consumption rate. In addition, the model has an energy savings mode in which power consumption is reduced during TV viewing. Furthermore, its light weight of 37.4 kg contributes to reducing CO_2 emissions during product transportation.

Five stars performance


Plasma TV PDP-A507HX

●Annual power consumption

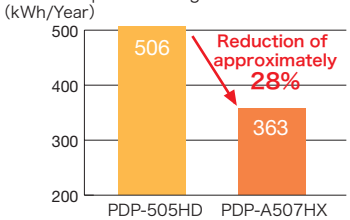


* Annual power consumption refers to the electrical power consumed in one year, calculated with a formula predicated upon model size or receiver on the basis of an average viewing period at a typical home, in accordance with the applicable energy savings law.

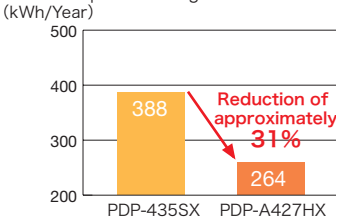
Energy savings performance

PDP-A507HX and PDP-A427HX achieve low power consumption at an industry-leading level* through a "high-purity crystal layer" and other technologies. The increased luminous efficiency made possible by the new innovative "high-purity crystal layer" technology is also highly advantageous in energy savings. These models provide low power consumption at an industry-leading level.*

●Comparison of annual power consumption among 50V models



●Comparison of annual power consumption among 42V models



* Among 50V and 42V XGA model plasma TVs. Data as of March 16, 2007; source: Pioneer

In addition, the new models are equipped with various energy-saving functions that promote power savings during use.

- Energy-saving mode
- Automatic shut down when no signal is received
- Automatic shut down when inoperative
- Power management (with PC input)

Various Global Warming Prevention Measures

Evolution of auto navigational systems leads to global warming prevention

- **Arrive at one's destination without getting lost, which prevents wasted gasoline**
- **Share information using Web 2.0* to arrive at one's destination at an earliest possible time**

If one gets lost and wastes gas by driving around for an extra ten minutes, some 350 cc of fuel is burned and 800g of CO_2 is exhausted. By using an auto navigation system and selecting an efficient route, one can help prevent global warming. Pioneer's auto navigation systems contribute to promoting environmentally friendly driving through their added Web 2.0 function.

An even more advanced auto navigation system, "Smart Loop"

Smart Loop contains a large volume of information and improves quality by enabling users to provide and share knowledge with each other through network use. In this way, Smart Loop achieves a "Web 2.0 world" in auto navigation. For example, Smart Loop can reliably guide a driver even to places where he/she has never been before by allowing him/her access to parking place entrance information from other users. Smart Loop navigates from start to finish for its driver at a completely unprecedented level.

* Web 2.0 is a general term for web-related technologies and web site services based on a new concept that is not merely an extension of the conventional World Wide Web (www).

A mini-component system achieving further energy savings and resource savings with fully digitized technology

The use of digital amplification designed to amplify DVD or CD digital signals without converting them to analog and an improved switching power unit featuring extremely high power efficiency has improved conversion efficiency from 30% to 70%. Eventually, the new model achieved about a 52% reduction in power consumption.

Mini-Component X-MF7DV

●Reducing the size and number of parts

Since the new model generates less heat, the need for a heatsink and cooling fan was eliminated, leading to a successful reduction in the size and number of parts used. A 15% reduction in the number of parts and a 33% reduction in weight have thus been achieved.

The heat sink and transformer is a much more compact size as compared with the previous model.

Nobuyoshi Koike (left) and Kazuhiko Taira (right), Audio/Video Designing Department, HBG AV Division, studying full digitalization

●Comparison with the previous model (without speakers)

Main body	X-MF7DV	Previous model (X-HA7DV)	Reduction ratio
Power consumption (W)	33	69	52%
Product weight (kg)	3.8	5.7	33%
Number of parts	1,208	1,422	15%

Reducing size and weight while still improving the car audio amplifier's efficiency

The PRS-D7400 achieves full-range high quality in a digital amplifier while realizing high efficiency (energy savings) and reduced CO_2 emissions with reduced heat generation. Highly efficient and low heat-generating parts are used in this car audio amplifier to realize a significant size and weight reduction, one that helps reduce fuel consumption and ultimately reduces the product's impact upon the global environment.

Car audio amplifier PRS-D7400

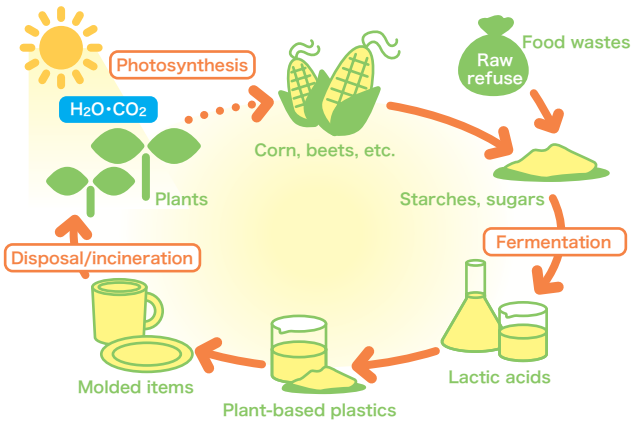
Using plant-based plastic materials in a personal computer DVD writer

Plastics made from plants are being developed that reduce environmental impacts by replacing nonrenewable raw materials with sustainable plant-based materials. These plant-based materials have advantages that include reduced consumption of oil resources, and a carbon neutral status,* one that does not add any CO_2 in the atmosphere. Pioneer has worked to commercialize products using plastics such as a starch resin made from corn used in a next-generation optical disc. In cooperation with Mitsui Chemicals, Inc., Pioneer overcame the technical problems of this material, including its lower resistance to impact and heat, and use such starch resin first time in the front cover of the panel tray, a part that requires high visual quality, for its "DVR-A12" series of personal computer DVD/CD writer.

DVD/CD writer DVR-A12J-W

* Carbon neutral is the carbon-circulation theory that although plants emit CO_2 when burned, just like oil, because plants are organic, they absorb (fix) CO_2 through photosynthesis in their growth process; therefore, as a practical matter, burning plant material does not increase CO_2 levels in the atmosphere.

●The lifecycle of plant-based plastics being used for this model



Natural Resources Recycling

Pure Malt Speakers and Audio Racks that Provide an Authentic Atmosphere and Rich Sounds

Pure Malt speakers have been developed in collaboration between Pioneer and the brewing and distilling company Suntory Limited, which was seeking a way to recycle casks (made from a natural white oak material) that had been used for fuels and other purposes after completing their service of aging whiskey.
Oak trees grow for 100 years before serving as whiskey casks for another 50 to 70 years. After that, the wood is recycled into speaker cabinets that produce warm and rich sounds for many more years. Pure Malt speakers were commercialized in 1998, and the current models S-A4SPT-PM and S-A4SPT-VP are sold worldwide. In addition to reusing oak for these speakers, Pioneer also uses old casks for audio racks and other products in expanding the Pure Malt series lineup. Thus, Pioneer has been hard at work recycling natural materials.

Pure Malt audio rack B-PM1000

Pure Malt speaker S-PM300 Speaker stand CP-PM300

Pure Malt speaker S-A4SPT-PM

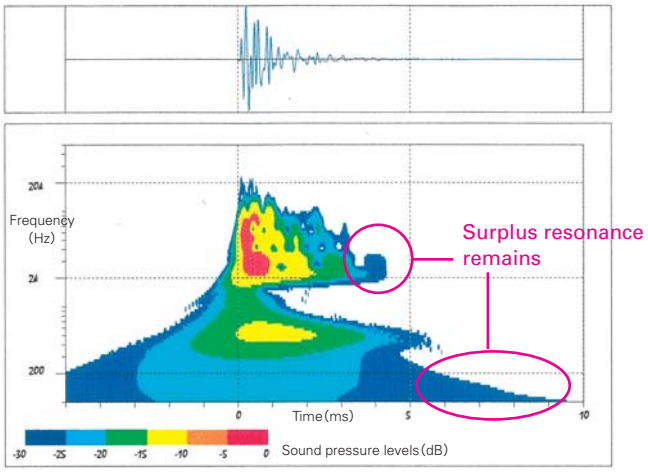
Pure Malt speaker S-A4SPT-VP

Important environmentally friendly factors

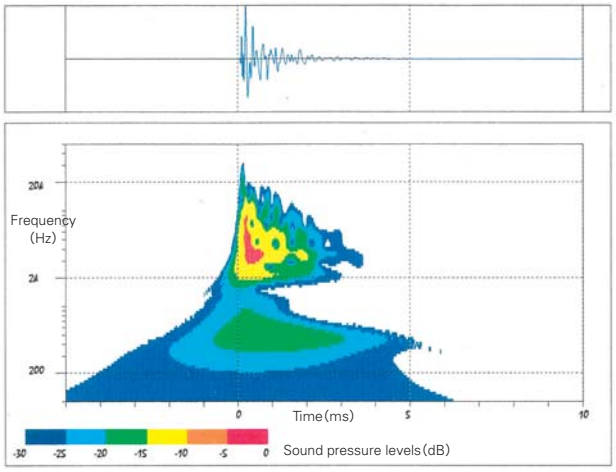
- Using old casks for cabinets and ducts contributes to the recycling and reduced use of natural resources
- Low VOCs
- Replacement of styrene foam packaging material with recyclable pulp molded material
- Use of lead-free solder
- A portion of sales from products is donated to the Green Fund of the National Land Afforestation Promotion Organization to contribute to the government-led promotion of afforestation

Green Fund symbol

●Data on sounds produced when hitting a cask material



•Cask materials before being filled with whiskey



•Cask after aging whiskey for 50 to 70 years

Experiment results indicate that casks used to age whiskey have less resonance (eigentone) and produce a more natural and mild sound. These casks appear to be a recycled material that can serve dual purposes: being environmentally friendly and bringing a positive effect to sound quality.

Efforts to Reduce Environmentally Hazardous Substances

The Pioneer Group Is Working to Reduce Environmentally Hazardous Substances

Pioneer issued its management standard on environmentally hazardous substances (EHS) in December 2002, calling for a thorough elimination of hazardous chemical substances from its products, and has since promoted consistent EHS management throughout the group. Our ongoing efforts in this respect include expediting an early response to European chemical substance regulations as well as other such regulations worldwide. It is our mission to provide products that are safe for our customers to use and to eliminate the chemical substances that can pollute the environment once the products have been discarded.

Pioneer is responding to the RoHS Directive*

In 2002, Pioneer started action to respond to the RoHS directive. Our efforts to comply with this European standard include looking for alternatives to parts that contain EHS, establishing an EHS information system, and reviewing our EHS detection methods. Because it is also important to control the supply chain which produces materials and parts,Pioneer has conducted EHS management audit in each supplier to help them develop their own systems to produce or supply EHS-free products and materials.
Regulations that control specific chemical substances are being established in other countries and regions outside Europe including china. The Pioneer Group has already ensured that all new products launched since 2005 are RoHS directive compliant.

* RoHS is a directive prohibiting the use of specific hazardous materials in electrical or electronic equipment.
No electrical or electronic equipment sold in the EU in and after July 2006 shall contain any of six prohibited substances: lead, mercury, cadmium, hexavalent chromium, PBB (polybrominated biphenyl), and PBDE (polybrominated diphenyl ether).

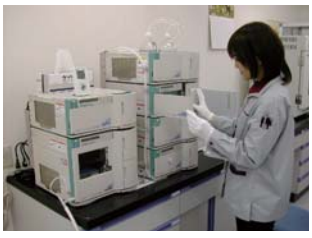
●Opening House Supporting suppliers with EHS analysis

The Kawagoe Plant in Japan set up an Open House in which a fluorescent X-ray analyzer is installed to measure EHS in products or their components.
Since its establishment in April 2003, the plant has been using this analyzer to measure the EHS content of all newly adopted components (components for testing). Since the analyzer is expensive and requires running costs after installation, it is difficult for small suppliers to do the same analysis and inspection because of the large cost burden.
Aware of the need for combined efforts with suppliers and other cooperating companies in EHS reduction, Pioneer utilizes the newly established Open House at the Kawagoe Plant to provide the analyzer, the lab, and knowhow to small suppliers for free to help them considerably reduce their own costs for EHS analysis and inspection.

Analysis lab where EHS analysis is conducted

The reduction of volatile organic compounds (VOCs) in car speakers

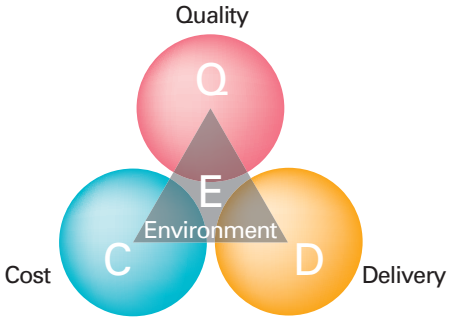
Formerly, in-car audio speakers were among those items emitting great VOCs because such speakers were assembled from parts made of various materials using adhesives. Tohoku Pioneer has striven to drastically reduce VOCs by installing industry-leading measurement equipment and developing, in cooperation with an adhesive manufacturer, a rubber-based adhesive that does not contain any VOCs or other hazards. By replacing the old adhesive with a new one, Pioneer has reduced VOCs emissions to one-tenth of the previous level, shortened the drying time to one-twelfth of the previous duration, and, as a result, increased production efficiency. In addition to reducing product VOCs emissions, the replacement of the adhesive brought many other benefits, such as reducing the plant's atmospheric emissions and improving the work environment by reducing the odors from organic solutions in the lines.
The Kawagoe plant installed equipment that analyzes VOCs emissions from auto electronics products and began operating it in September 2005. This action was in keeping with the voluntary VOCs restriction implemented by the Japan Automobile Manufacturers Association, Inc., which became effective in April 2007 for new passenger automobiles. The Kawagoe plant's analysis lab now has installed equipment such as a thermostatic bath, a high performance liquid chromatograph (HPLC), and a gas chromatography mass spectrometer (GC-MS).



Newly installed GC-MS (left) and HPLC (right) at Tohoku Pioneer

The Concept Behind and Efforts for Sustainable Management

Pioneer Group aims to truly integrate business activities and environmental preservation activities.



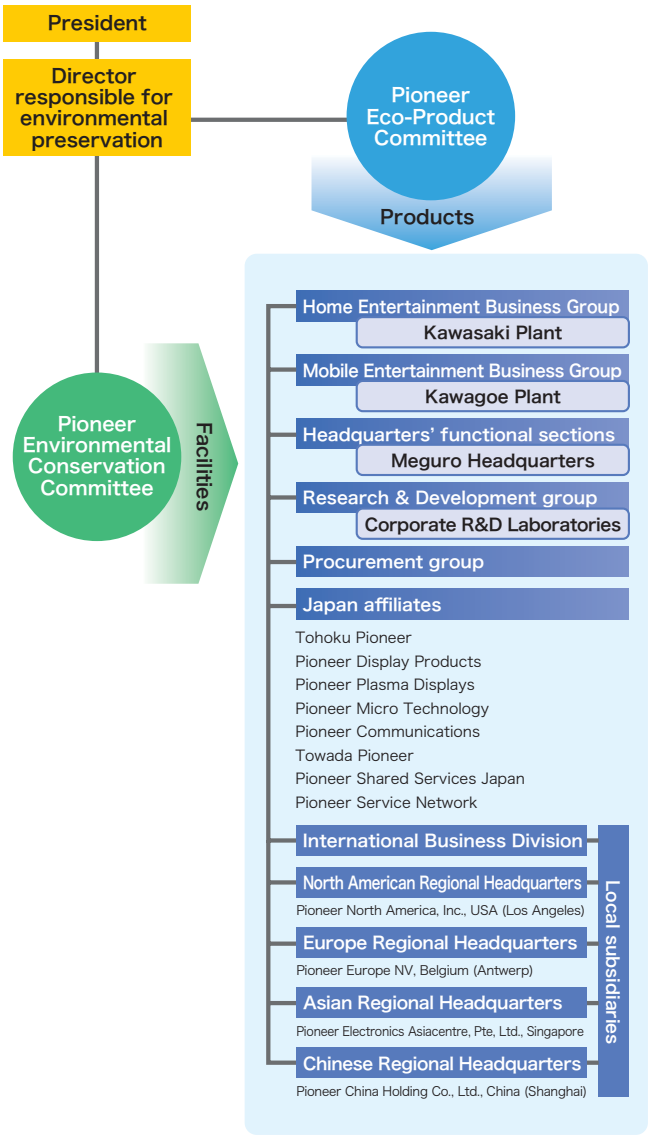
Quality
E nvironment
C ost
D elivery

Working on Environmental Preservation at Pioneer Sites Worldwide to Improve Performance

In July 1991, Pioneer inaugurated a "Pioneer Environmental Conservation Committee" to serve as a group-wide organization that discusses and makes decisions on environmental issues. In 2003, Pioneer established its Eco-Product Division to enhance the group's efforts to cope with the EHS issue, and, in 2006, we inaugurated a "Pioneer Eco-Product Committee" as part of a drastic reorganization, thereby building a two-committee structure.
The Pioneer Environmental Conservation Committee controls all environmental preservation activities related to activities at plant organizations, while the Pioneer Eco-Product Committee cross-divisionally controls those environmental preservation activities related to products. In this way, the two committees serve as horizontal and vertical axes in promoting overall activities.

In addition, Pioneer's major facilities, excluding newly established ones, have acquired ISO 14001 environment management certification and have been working on continuous improvement through Pioneer's PDCA* drive.
To further improve our activities' performance within a context of the growing importance of environmental preservation efforts, such as global warming prevention, it appears necessary to press ahead effectively and aggressively with sustainable management. It is our future task to enhance the environmental governance of the group. To begin this task now, we have decided to integrate the ISO 14001 environment management systems at the Pioneer Corporation's four facilities. We are currently working to acquire certification by August 2007. Following the acquisition of integrated ISO 14001 certification for the Pioneer Corporation, we intend to further enhance the Pioneer Group's performance in efforts for environmental preservation by working on specific actions for proceeding with certificate integration for our subsidiaries in Japan and then for those worldwide to eventually achieve complete integration of our ISO 14001 certification.

* PDCA stands for plan, do, check, and action.



Environmental Communications

Pioneer believes that, as a good citizen, it must strive to protect and improve the global environment and maintain high ethical standards, both within local communities and the international community. The Pioneer Group has been working to contribute to local communities through environmental education programs, Zero Garbage cleanups, and exchange meetings with local companies.

Environmental Lecture at the Kawagoe Plant (Saitama Prefecture)

As part of its comprehensive learning activities, the Kawagoe plant hosted a lecture about global warming and Pioneer's environmental preservation efforts, for 230 Yamada Junior High School students in Kawagoe City.

Students enthusiastically listened to the lecture

An informational meeting on environmental activities for elementary school teachers

Towada Pioneer (Aomori Prefecture) hosted an informational meeting about our environmental activities, inviting teachers from Kitazono Elementary School.

Participation in a meeting among companies acquiring the ISO certification

DPC Shizuoka participated in a meeting among companies in Fukuroi City (Sizuoka Prefecture) that have acquired the ISO certification, and discussed green purchasing with attending companies.

Participation in "Festa Kankyo in Meguro 2006"

Pioneer headquarters participated in the first environmental exhibition hosted by the Meguro Ward Office (Tokyo).

[Major environmental communications activities, commendations, etc., in the previous fiscal year]

2007

February	**Omori plant:** participated in an environmental exhibition, "Eco Festa Wonderland," hosted by the Ota Ward office. **Kawagoe plant:** participated in the "Kawagoe Environmental Forum."

2006

December	**Towada Pioneer:** attended the general meeting of the Aomori Prefecture Environmental ISO Network. Hosted its fourth "Pioneer Forest" event.
November	**Tohoku Pioneer Yonezawa plant:** hosted a discussion forum with Ilde Town officials and led an environmental activity tour.
October	**Kawagoe plant:** participated in "2006 Kawagoe Earth Day." **DPC Yamanashi plant:** participated in Kids ISO Support in Chuo City. **WPC (Shizuoka):** received the Chairman's Prize from the 3R Promotion Council
August	**Tohoku Pioneer Yonezawa plant:** conducted an environmental training program at Yonezawa Industrial High School as part of an internship.
June	**Towada Pioneer:** conducted the Oirase Stream Cleanup Operation. **Headquarters:** participated in "Festa Kankyo in Meguro 2006." Participated in the CO_2 reduction/lights-out campaign, "Black Illumination 2006."
March	Green Purchasing Awards: participated in the awards ceremony and the round-table discussion competing for the Minister of Economy, Trade and Industry prize.

In addition, Pioneer conducted Zero Garbage cleanups (organized volunteers to pick up commuter way trash) at Pioneer locations in Japan throughout the year.

Pioneer produced a fun educational cartoon, "Environmental Treasure Box," that teaches about the environment's importance.

Pioneer posts this fun cartoon, one that teaches about environmental problems and terms, on our environmental website in order to help anyone interested become familiar with environmental problems. We look forward to your feedback.

http://pioneer.jp/environment/tamate/index.html

Pioneer sound.vision.soul

■Editorial policy

This booklet summarizes the highlights of the Pioneer Group's environmental efforts in FY2007. We produced this booklet in the hope that many customers will understand the present situation of our global environment and Pioneer's efforts in environmental preservation. Our website provides a more detailed report. Visit the website indicated below.

http://pioneer.jp/environment-e/

■Reporting period

April 2006 to March 2007

Pioneer Corporation

General Administration Division
Environmental Preservation Department
4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654
Tel:+81-3-3495-2474
Fax:+81-3-3495-4428
e-mail: eco.p@post.pioneer.co.jp

To protect the environment, this report is printed on FSC Forest Certification paper with VOCs-free inks (containing no volatile organic compounds) by a waterless printing method that generates no harmful wastewater.

Pioneer is a member of the GreenPurchasing Network.

Published August 2007