



CASIO

Environmental Report 1999

1999

Casio Group and Business Direction

With an integrated approach to reducing size, weight and energy consumption, Casio Computer Co., Ltd. has focused its development efforts on compact, lightweight and energy efficient products that offer unique functions. Operations have expanded from electronic calculators, timepieces and musical instruments to a broad lineup of communications equipment, digital cameras and information appliances. Backed by innovative high-precision mounting technology, electronic devices have also become a core business. Liquid crystal displays (LCDs) are increasingly utilized in such electronic devices as digital audiovisual equipment, spurring rapid business expansion.

Led by Casio Computer, the Casio Group retains a prominent position on the global market with 70 subsidiaries and affiliates located throughout the world.

With the arrival of full-scale multimedia before us, demand is rising for new electronic equipment that breaks with convention. Corporations are also assuming a more aggressive stance on environmental issues amid heightened environmental awareness. Backed by advanced large-scale integration (LSI) circuit design technology, Casio is concentrating efforts on the development of compact, lightweight and low-power mobile multimedia products that fully utilize the Company's key strength in LCDs. Casio is also firmly advancing Group efforts to contribute to environmental preservation in all business activities.

Position and Scope of Environmental Report

- The Environmental Report 1999 is a compilation of environmental protection efforts of the Casio Group, mainly during fiscal 1999 (April 1, 1998 to March 31, 1999).
- The environmental impact data compiled and published within applies to six manufacturing and four nonmanufacturing facilities in Japan, as stated below.
- Casio Group facilities are broadly categorized as manufacturing and nonmanufacturing. Manufacturing facilities comprise assembly and processing facilities for electronic equipment, and manufacturing facilities for LCDs and other electronic devices. Electronic device facilities generally have a greater impact on the environment owing to heavier energy usage and industrial waste generation.

Domain	Casio Group Facility	Principal Business
Environmental Action Objective*		
Scope of Compiled and Published Environmental Impact Data**		
Japan		
Electronic Device Manufacturing Facilities		
	Kofu Casio Co., Ltd.	Manufacture of electronic calculators, mobile and office computers and LCDs
	Kochi Casio Co., Ltd.	Development and manufacture of electronic devices including LCDs
	Casio Micronics Co., Ltd.	Development and manufacture of electronic devices
Assembly and Processing Manufacturing Facilities		
	Yamagata Casio Co., Ltd.	Manufacture of electronic timepieces and communications equipment
	Aichi Casio Co., Ltd.	Manufacture of digital cameras, electronic musical instruments and personal word processors
	Casio Electronic Manufacturing Co., Ltd.	Manufacture of page printers
Nonmanufacturing Facilities		
	Casio Computer Co., Ltd.	
	Hatsudai Head Office	Headquarter functions
	Tokyo Product Control and Technical Center	Development, design and materials procurement of systems equipment
	Hamura Research & Development Center	Development, design and materials procurement for such electronic equipment as calculators and timepieces
	Hachioji Laboratory	Research in LCD devices
	Other	Marketing and service bases
Overseas		
	Manufacturing and nonmanufacturing facilities	

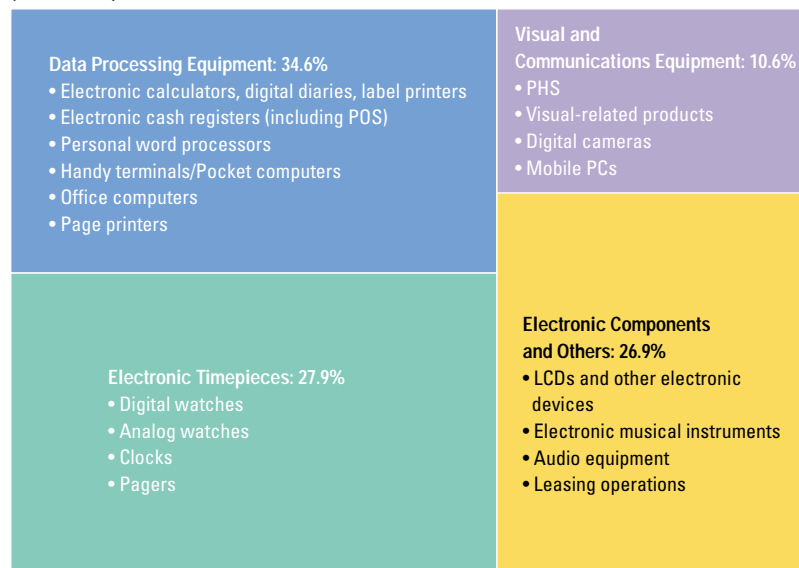
*In fiscal 1999, energy conservation and industrial waste reduction environmental goals excludes overseas facilities.

**Relevant facilities make up approximately 60% of the overall production value of the Casio Group. However, we believe that the core environmental impact of our operations is well covered, since nearly all electronic device facilities are included, which have a significant impact on the environment, as well as development, design and material procurement functions.

Casio Group Profile

In fiscal 1999, the Casio Group comprised 71 companies: Casio Computer Co., Ltd., 61 consolidated subsidiaries and nine affiliates. By region, 35 companies were located in Japan and 36 overseas.

Net Sales Ratio and Principal Products and Businesses by Consolidated Category (Fiscal 1999)



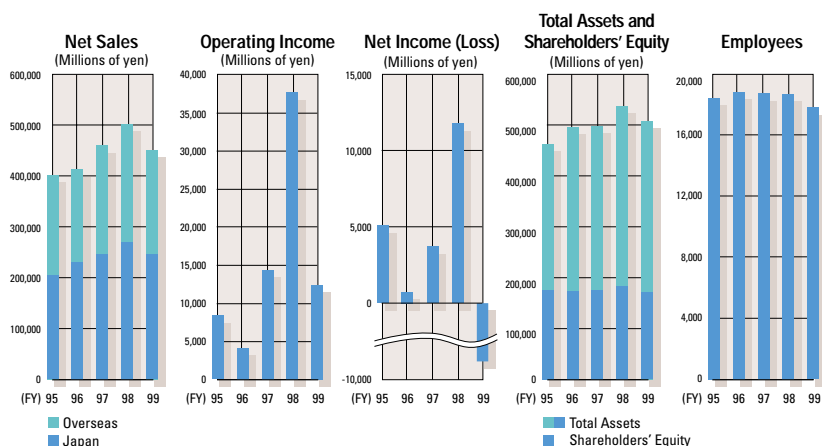
Consolidated Financial Highlights (Millions of yen)

	Fiscal 1995	Fiscal 1996	Fiscal 1997	Fiscal 1998	Fiscal 1999
Net sales	401,675	411,927	459,105	502,012	451,141
Japan	204,292	230,128	244,414	268,202	245,180
Overseas	197,383	181,799	214,691	233,810	205,961
Operating income	8,471	4,145	14,370	37,757	12,551
Net income (loss)	5,026	695	3,700	11,738	(8,534)*
Total assets	463,346	495,563	496,947	537,013	506,566
Shareholders' equity	175,082	172,127	174,528	182,657	170,721
Employees	18,407	18,797	18,725	18,668	17,783

*Tax effect accounting was applied in fiscal 1999.

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Our Commitment to the Environment



With the mission of contributing to improved lifestyles and user creativity, we are committed to developing novel products that delight consumers. We have two focuses in providing customers with value-added products. One is to create unique ideas that trigger changes in consumer lifestyles and in contemporary society. The second is to accumulate basic technological expertise in consumer electronics, namely the production of products that are compact, energy efficient and highly functional. Since our foundation, we have spurred technological innovation to advance such key characteristics as lightness, thinness, compactness and low power consumption. As a result, electronic calculators and timepieces have made dramatic advancements in energy conservation and compactness, even as functionality has increased dramatically. We have achieved results in accordance with the concept of resource productivity, which is measured as the amount of goods and services produced per resource invested. I believe market needs have led the way to this successful result.

As environmental issues become global priorities, however, Casio must be more sensitive than ever to social demands while closely following market trends. The role of industry in environmental preservation is expanding on all facets of operations, raising unprecedented demand for an aggressive response from corporations. A broader range of efforts is required in product development, including energy and material conservation, recycling and chemical substance handling.

In June 1999, Casio implemented Casio Group Environmental Targets, called the Clean & Green 21 Initiative. We initiated efforts to preserve the environment at plants and facilities throughout the Group, and have issued the Environmental Report 1999. Although environmental efforts are still in the initial stages, the Casio Group, with its creative corporate culture, is making every effort in environmental stewardship throughout operations, along with the development of products with lower environmental impact. The results of these efforts will be continuously updated in the Environmental Report, which is provided to users of our products, business partners in production and sales, and our investors and shareholders. We welcome your opinions and comments in support of these efforts.

December 1999

梶尾和雄

Kazuo Kashio
President

Publication of the Environmental Report

Ensuring growth while harmonizing activities with the global environment has become a crucial issue for the corporate sector. Amid severe economic conditions, sustainable growth that considers both the global environment and corporate interests requires the elimination of waste in management, the minimization of misused resources and industrial waste generation, the reduction of toxic chemical use and the pursuit of zero emissions. I believe the attainment of these objectives will enhance corporate soundness by strengthening profitability while contributing to environmental preservation.

To enhance environmental management, the Casio Group established the Environmental Conservation Committee in 1991, which I chair, and began the creation of a system for environmental preservation. In 1993, the Casio Environmental Charter was created, followed by the Casio Voluntary Plan on the Environment (CVPE), launching environmental activities across the Casio Group for products, plants and facilities. Since then, we have consistently updated the Plan in accordance with social trends and our progress. Striving for autonomy and transparency in our environmental activities, I believe it is necessary to clarify numerical targets and time schedules for each activity. In June 1999, we established the new Casio Group Environmental Targets, called the Clean & Green 21 Initiative. As a part of the CVPE, it determines action targets for plants and facilities—a high priority. Energy conservation, waste reduction, abolition of toxic chemical substance utilization, acquirement of ISO 14001 environmental management system certification, and green procurement, which prioritizes the purchase of materials with lower environmental impact, make up five concrete numerical targets and time schedules. Practical measures have already been enacted to reach these targets throughout the Group. We are also setting similar objectives for efforts concerning products.

The following pages describe our programs in detail along with their results. With our activities just starting, more time is necessary to demonstrate suitable progress. We will make concerted efforts to expand activities including environmental accounting. The Casio Group is working hard to provide positive results in environmental preservation for the next report, which is scheduled to be published in June 2000.

December 1999

梶尾幸雄

Yukio Kashio
Executive Vice President
Chairman of Casio Environmental Conservation Committee



Casio Environmental Charter and Environmental Policies

In January 1993, the Casio Group established the Casio Environmental Charter, which states four policies and addresses the implementation of voluntary and sustained efforts toward preservation of the environment.

Casio Environmental Charter

Casio recognizes the importance of responsible corporate measures in every Group business field to preserve the global environment. From a broad international perspective, Casio shall endeavor to implement basic policies and concrete measures to contribute to global prosperity and welfare.

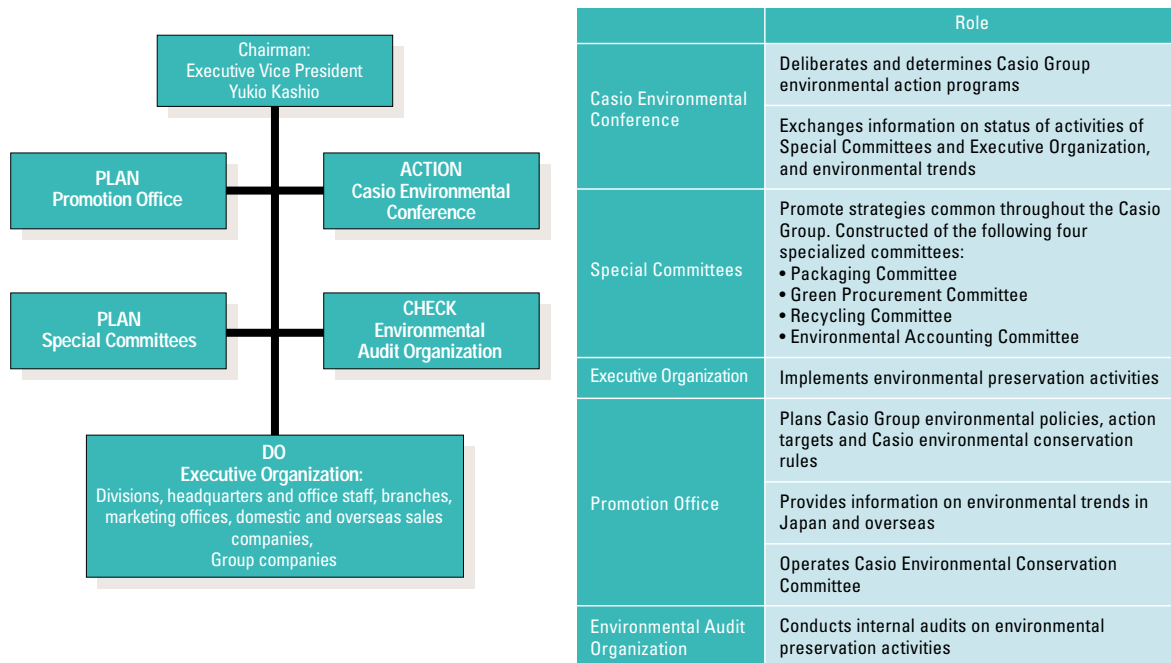
Environmental Policies

1. Follow domestic and overseas environmental laws, regulations and standards.
2. Voluntary Casio Environmental Conservation Rules* shall be established to consider environmental interests at each stage of product development—design, manufacturing, distribution, repair, recovery and disposal. All business divisions of the Casio Group shall aim for constant improvement through compliance audits while taking responsibility for their actions.
3. As responsible corporate citizens, all members of the Casio Group shall recognize the importance of and aim for high awareness in preserving the global environment.
4. These measures shall be applied to all business divisions of the Casio Group in Japan and overseas.

**Casio Environmental Conservation Rules are concrete action programs for environmental conservation determined in the CVPE.*

Environmental Conservation Committee

The Casio Group established the Environmental Conservation Committee, chaired by Executive Vice President Yukio Kashio, and is promoting environmental preservation activities through transparent action systems at each executive organization.



Casio Group Environmental Action Plan

In January 1993, the Casio Group issued the CVPE to promote environmental preservation activities for the Group. The Plan has subsequently been revised in response to social change and progress. The fifth edition of the CVPE was issued in September 1999.

In June 1999, we finalized our Casio Group Environmental Targets called the Clean & Green 21 Initiative. Included in the CVPE as concrete guidelines, these include numerical targets and schedules for carrying out activities and meeting objectives at plants and facilities. Environmental Conservation Rules in the fifth edition of the CVPE apply to our environmental activities for products. With thorough reviewing and updating of the CVPE, we will establish time frames and numerical targets for environmental activities concerning our products.

Environmental Activities for Products

1. Material conservation and recycling	<ul style="list-style-type: none"> • Increase utilization of recycled materials • Utilize recyclable materials • Design products that are easy to disassemble 	→ See page 7
2. Energy conservation	<ul style="list-style-type: none"> • Develop energy-efficient products • Increase number of products with International Energy Star Program certification 	→ See page 8
3. Packaging materials	<ul style="list-style-type: none"> • Increase recycling capability • Utilize recycled materials • Reduce use of materials 	→ See page 9

Environmental Activities at Plants and Facilities

Casio Group Environmental Targets Clean & Green 21 Initiative

1. Target for energy conservation	By fiscal 2011, reduce CO ₂ emissions per unit of production to 25% lower than in fiscal 1991.	→ See page 11
2. Target for industrial waste reduction	By fiscal 2011, reduce volume of industrial landfill waste to zero.	→ See page 12
3. Targets for abolition of toxic chemical substances	Completely discontinue the use of HCFCs at both domestic and foreign production facilities by the end of 2001	} → See page 13
	Completely discontinue the use of chlorine-based solvents at both domestic and foreign production facilities by the end of 2000	
4. Target for acquirement of ISO 14001 certification	Acquire certification for principal manufacturing and nonmanufacturing facilities in Japan and overseas by the end of fiscal 2001	→ See page 13
5. Target for Green Procurement	Adopt green procurement specifications by the end of fiscal 2001	→ See page 15

Note: 1. The energy-conservation and waste-reduction targets only apply to domestic facilities. Other targets apply to all facilities, including those overseas.
2. Fiscal years in this report end on March 31.

Product Stewardship

Aiming to Create Products with Lower Environmental Impact

The Casio Group assesses its new products on the basis of the CVPE, which was initially issued in January 1993. We use Product Environmental Assessment Sheets with 12 assessment areas and 32 evaluation points as tools in carrying out preliminary checks from the design stage to simulate the product's environmental impact. With regard to compactness, thinness and low power consumption, we aim to improve our products by comparing them with similar products made by competitors.

Product Assessment Item	Category			
	Saves Resources	Recycling	Safe	Saves Energy
✔ Uses recycled materials	○			
✔ Marking of resins used		○		
✔ Parts made of same material easily detached and sorted		○		
✔ Improved ease of disassembly		○		
✔ Elimination or reduction of toxic chemical substances			○	
✔ Compactness, thinness	○			
✔ Low power consumption				○
✔ More compact packaging	○			
✔ Packaging materials safe and easily separated for disposal; shift from resin to paper		○	○	
✔ Use of recycled resources for packaging materials	○			
✔ Elimination of HCFCs and chlorine-based solvents from part cleaning processes			○	
✔ Toxic property indication on batteries; information on recovery and recycling of secondary batteries		○	○	

For further improvement, these points are evaluated by comparing similar products on the market.

1) Resource Conservation and Recycling

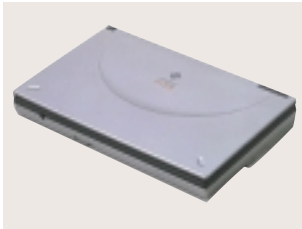
Efficient use of limited resources and reducing waste materials are crucial to the success of society's effort to conserve natural resources. To reduce utilization of materials, the Casio Group is making every effort to increase the rate of use of recycled resin for product parts made of resin. One of our product development goals is to create products that are the smallest and lightest of their type in the industry. Through comparative analysis, the Casio Group further improves compactness, thinness, lightness and standardization of parts among its products. In this way, we are making progress in reducing materials used in products. From the design stage, Casio considers the possibility of recycling after use and aims to create products made of highly recyclable materials and that are easy to disassemble. We have also discontinued decorative coatings that hinder recycling. Efforts to indicate the resin content of parts for easy separation and sorting are carried out in accordance with Casio Group standards, which are based on industry standards.



Case 1: Electronic Keyboards

The Casio Group's North American musical instrument production base in San Diego, Casio Manufacturing Corporation, has been using recycled plastic as basic materials for bodies of mass-produced electronic keyboards since November 1997. Although society discards plastic in large amounts every year, recycled plastic is difficult to use for precision molding owing to its mixture of resin types. To cope with this problem, the Company introduced exclusive coloring agents, upgraded the screening functions of filters used in the extrusion molding processes and adopted preliminary analyses to regulate the ratios of different resins in compounds. Through these and other special measures, technical problems were overcome to use recycled plastic in mass production.

Use of recycled materials



Case 2: Mini-Notebook PCs

Use of recycled materials

Since plastics are difficult to recycle, magnesium alloy is drawing considerable attention as an alternative material due to its light weight, high strength and ease of recycling. Casio has adopted magnesium alloy for the bodies of its CASSIOPEIA FIVA mini-notebook PCs. In addition, product casings are made of 10% recycled plastic.



Case 3: Color Page Printers

Use of recycled materials

Parts made of a single material

Ease of disassembly

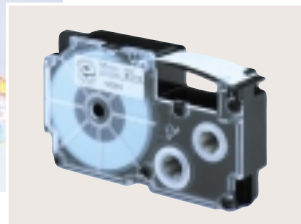


To promote recycling of such consumable parts as toner and drum sets, Casio is making disassembly of products easier and incorporating this concept into product designs. For example, the leaf springs of all consumables snap into place, and insertion screws have been eliminated. We have also made drum sets easier to recycle by making all ultrasonic joint parts of the same type of material. In addition, 10% of the plastic used for paper feed cassettes is recycled plastic.



Case 4: Recovery of Label Printer Tape Cartridges

Ease of disassembly



In October 1999, the Casio Group began recycling tape cartridges employed in label printers, targeting the domestic corporate market, which accounts for as much as 70% of the approximately 10 million cartridges used every year. To encourage companies to recycle, we distribute cardboard boxes to businesses with return shipping paid by us. We are also promoting collection through retailers for recycling. We install new tape in the returned cartridges for reshipping. In addition to establishing this recovery system, we redesigned nine types of cartridges for easy disassembly, accounting for 70% of corporate demand. As a result, we have been authorized to place the Eco Mark label on our products.

2) Energy Conservation

Developing products with low energy consumption

Using its exclusive LSI circuit design technology, the Casio Group has offered high-performance, energy-efficient products. For example, our low power consumption LSI designs have enabled the use of solar batteries in our calculators since 1981, contributing to a substantial reduction in dry cell battery consumption. The Group carefully compares its products with those in the same category made by other companies to guide development efforts toward ensuring that its products are the most energy efficient on the market. Another aim is to have our office automation (OA) equipment products meet International Energy Star Program standards for low energy consumption.

Major Examples of Energy-Efficient Casio Products

Product	Feature	Environmental Label
Solar Powered Calculators	Powered by solar batteries	Blue Angel Mark (Germany), Eco Mark (Japan)
SPEEDIA Color Page Printers	Low energy design	International Energy Star Program
CASSIOPEIA FIVA Mini-Notebook PCs	Low-energy design	International Energy Star Program
G-Shock (watches)	Powered by solar batteries	Eco Mark

Product Stewardship



Case 1: Solar Powered Calculators

Casio calculators with circuits designed for low energy consumption and powered by solar batteries are authorized to bear Germany's Blue Angel Mark for environmental conservation. In February 1999, our calculators were also authorized to carry Japan's Eco Mark, an industry first for this product category.



Case 2: SPEEDIA Color Page Printers/ CASSIOPEIA FIVA Mini-Notebook PCs

These products are authorized by the International Energy Star Program, which is carried out by the U.S. Environmental Protection Agency, to promote the development and use of energy-efficient products. Created in response to global warming and other environmental issues, this program has become the de facto global standard. The United States, Japan and Europe promote authorization through the program.



Case 3: G-Shock GULFMAN

This G-Shock watch is designed for marine sports. The watch contains Tough Solar, a solar battery able to meet high levels of energy consumption, which serves as a secondary battery to prevent the batteries from depleting during prolonged use at sea. The batteries last two years after a full charging, even without an additional solar charge.

3) Packaging Materials

In an effort led by Casio's Packaging Committee (see page 5) and Casio Computer's Design Center, the Casio Group has developed a program of environmental conservation measures related to packaging materials, including boxes and shock-absorbent materials. The program, outlined below, includes using paper and other recycled materials in place of plastic packaging. For example, we are moving from shock-absorbent packing made of resinous material to those made of corrugated cardboard or pulp molds. We also utilize recycled paper from milk cartons, or such nonwood material as bagasse from sugar cane residue for containers. The Casio Group is also developing the use of cell molds (shock-absorbent packing made from used newspaper) and corn molds (shock-absorbent packing made from corn starch).

Packaging Materials

Goals	Measures
Design packaging that is easy to separate for recycling; promote the use of paper; upgrade safety	<ul style="list-style-type: none"> • Substitute paper for resinous material • Use only one type of material • Discontinue practice of combining differing types of material • Use nonwood materials
Use recycled materials	<ul style="list-style-type: none"> • Use recycled paper and recycled resins
Design smaller, thinner packages	<ul style="list-style-type: none"> • Reduce size of individual containers • Reduce use of shock-absorbent materials

Use of Paper and Recycled Materials



**Case 1:
Cardboard**
This photo demonstrates the use of cardboard as shock-absorbent material—one measure adopted in the initiative to shift from resinous materials to paper.



**Case 2:
Pulp Mold**
This photo shows a mold made entirely of recycled paper employed as shock-absorbent material, an optimal alternative to resinous material. We are expanding the use of pulp molds for heavier products by testing its shock-absorbent properties.

Use of Recycled Resources



These watch cases are made entirely of recycled milk cartons.

Use of Nonwood Materials



Bagasse was used as the packaging material for these calculators. Bagasse, which is made from sugar cane residue, replaces paper made from wood to help conserve forest resources.

Smaller Boxes for Individual Items



Casio has reduced the space required for packaging page printer toner sets 15% by changing the way they are packed and switching the type of shock-absorbent packing. Pulp molds are used as shock-absorbent materials. (Each photo shows the new packing method in the foreground, with the old method behind.)

To make packages with lower environmental impact recognizable at a glance, we have created a unique Casio symbol, the Eco Package Mark, which we have been affixing to packages shipped in Japan since September 1999.

Eco Package Mark Standards

- 1) The packaging must meet Casio Group standards for environmental conservation in package design.
- 2) The packaging design must exceed previous Casio packaging and that used by other companies in environmental considerations.
- 3) Environmental benefits can be demonstrated objectively.



Plants and Facilities

Note: Fiscal years in this report end on March 31.

1) Energy Conservation

Domestic Facilities in Fiscal 1999

Total energy consumption at domestic facilities⁸ rose 8.9% to 16,837 tons of carbon dioxide (CO₂) equivalents during the fiscal year, with electronic device manufacturing operations accounting for 70%. Compared with assembly and processing facilities, the electronic device manufacturing process requires more electric power for air-conditioning to manage the cleanliness, humidity and temperature of clean rooms. This requirement is especially prominent in the thin film transistor (TFT) liquid crystal display (LCD) manufacturing process. Assembly and processing manufacturing and nonmanufacturing facility energy consumption increased 18.2% compared with the previous fiscal year, reflecting the addition of Casio Electronic Manufacturing Co., Ltd. and Hatsudai Head Office in the fiscal year under review. Energy use at electronic device manufacturing facilities has also risen 5.3% due to increased production.

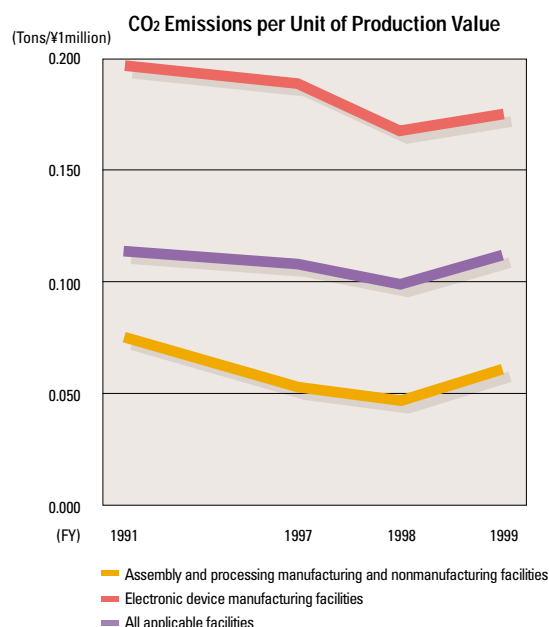
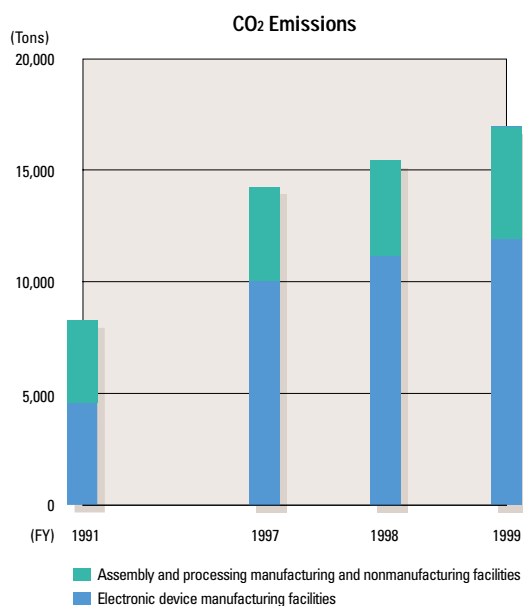
On examination of energy consumption as CO₂ emissions per production unit, energy consumption grew 12.9% to 0.111 ton of CO₂ emissions per ¥1 million. Energy consumption at assembly and processing manufacturing and nonmanufacturing facilities rose 28.1% on a unit basis, owing to this year's addition of CO₂ emissions at Hatsudai Head Office, which has no production value. Energy consumption at electronic device manufacturing facilities increased 3.4%.

The Casio Group has set a target for reducing CO₂ emissions per unit of production value to a level 25% less than that of fiscal 1991 by fiscal 2011. During the fiscal year under review, emissions were reduced 2.3% compared with fiscal 1991.

*See page 1 for a list of applicable facilities.

Future Efforts

Kochi Casio Co., Ltd., an electronic device manufacturing facility with significant energy consumption, promoted reductions in energy consumption by improving the operation of such peripheral machinery as cooling facilities and compressors and streamlining lighting fixtures. We plan to realize further energy conservation by improving the production process, increasing facility utilization rates and raising yield. By encouraging employees to turn off office equipment when not in use, and lights during lunch throughout facilities, Casio continues to promote reductions in energy consumption.



2) Reduction of Industrial Waste

Domestic Facilities in Fiscal 1999

Aggregate industrial waste generated at domestic facilities* grew 26.8% to 4,334 tons during the fiscal year. This rise reflects the addition of Casio Electronic Manufacturing Co., Ltd. and Hatsudai Head Office to results, causing a substantial 52.1% increase in waste generation at assembly and processing manufacturing and nonmanufacturing facilities. Excluding this factor, waste generated increased 15.8% compared with facilities included in previous fiscal year data.

Waste sent to industrial landfills, however, fell 13.2% to 1,510 tons due to increased recycling and volume reduction through waste compression. Waste plastic, sludge and ceramic and glass scraps accounted for 80.8% of this amount. Waste plastic composes a significant portion, as plastic parts and molds are used in many Casio products.

Most of the sludge and ceramic and glass scraps come from electronic device manufacturing facilities. Although these waste volumes tend to increase along with growth in production, the Casio Group has been making concerted efforts to reuse sludge generated during electronic device manufacturing as cement materials. Kochi Casio promoted the reuse of leftover hydrofluoric acid in firing fuel additives for making cement products and low-grade hydrofluoric acid products, by advancing the separation of leftover cleansing solutions used in the etching process. In fiscal 1999, Kochi Casio recycled the entire volume as a result of these efforts.

*See page 1 for a list of applicable facilities.

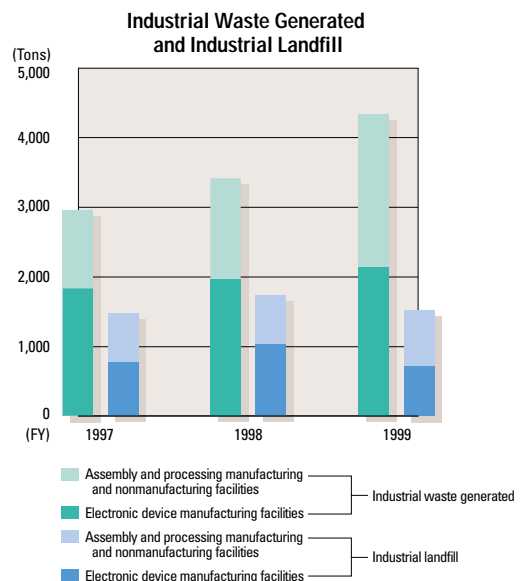
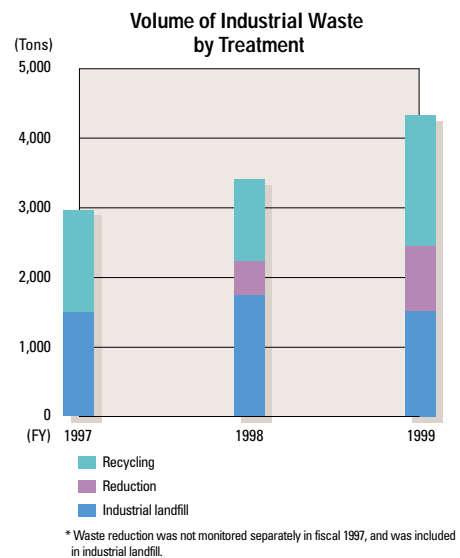
Future Efforts

The Casio Group is advancing efforts toward zero emissions of industrial landfill waste at all domestic facilities by fiscal 2011. The Casio Group aims to promote the recycling of waste plastic, the largest category of industrial waste generated and industrial landfill waste volumes, by reusing large plastic molds and converting waste plastic into usable materials in the form of pellets. The further reduction of sludge and ceramic glass scrap emissions is also a high priority.

At all facilities, the Casio Group thoroughly encourages separated disposal of various waste and reductions in paper consumption.

Principal Types of Industrial Waste (Fiscal 1999)

	Total Generated	Recycling and Reduction	Industrial Landfill Waste (Tons)	
			Industrial Landfill Waste	Percent of Total
Waste plastic	1,253	463	789	52.2%
Sludge	713	489	223	14.8%
Ceramic and glass scraps	234	27	208	13.8%
Metal scraps	373	277	97	6.4%
Paper	1,050	960	90	6.0%
Waste oil	355	311	44	2.9%
Waste acid	136	98	38	2.5%
Other	220	199	21	1.4%
Total	4,334	2,824	1,510	100.0%



Plants and Facilities

3) Disuse of Harmful Substances

Abolition of Substitute CFCs

The Casio Group has advanced efforts to eradicate CFCs by eliminating the cleansing process and switching to water-based solvents, aiming to eliminate the use of specific CFCs and 1,1,1-trichloroethane, substances that destroy the ozone layer. As a result, by the end of 1993, specific CFCs and 1,1,1-trichloroethane were eliminated. Efforts are now aimed toward the disuse of substitute CFCs. At the end of fiscal 1999, one domestic and two overseas bases of the Casio Group were utilizing HCFC-141(b) as a substitute. Plans call for eliminating their use by the end of 2001.

Abolition of Chlorine Solvents

The Casio Group has promoted alterations of the cleansing process to discontinue chlorine solvents. Abolished in domestic facilities in 1994, trichloroethane was still employed by two overseas bases as of the end of fiscal 1999. We plan to discontinue the use of trichloroethane at these bases by the end of 2001 at all facilities.

4) Environmental Management System

The ISO 14000 series is an international set of standards that provide a foundation for corporations to voluntarily engage in efforts to preserve the environment. ISO 14001, one subset of the series published in September 1996, is a standard for the certification of organizations that continuously improve their management systems to control factors influencing the environment.

The Casio Group has steadily implemented ISO 14001 throughout its bases, as the Group considers ISO 14001 an effective tool to standardize its internal environmental management system while improving its corporate structure. As a result, four domestic facilities acquired certification by the end of fiscal 1998, and two overseas facilities, Casio Korea Co., Ltd. and Casio Electromex S.A. de C.V. acquired certification in fiscal 1999. With the end of fiscal 2001 approaching, we are moving ahead with the certification of principal bases in Japan and overseas.

Certified Casio Group Bases (End of fiscal 1999)

	Facility	Date	Certifying Institution
Japan	Aichi Casio Co., Ltd.	January 1997	Japan Quality Assurance Organization (JQA)
	Yamagata Casio Co., Ltd.	November 1997	Japan Quality Assurance Organization (JQA)
	Kofu Casio Co., Ltd.	January 1998	Tüv Product Service Japan
	Kochi Casio Co., Ltd.	March 1998	Japan Audit and Certification Organization (JACO)
Overseas	Casio Korea Co., Ltd.	April 1998	Korea Standards Association - Quality Assurance (KSA-QA)
	Casio Electromex S.A. de C.V.	December 1998	Underwriters Laboratories Inc.

Planned Certification

		Fiscal 2000	Fiscal 2001
Japan	Group Companies	Casio Electronic Manufacturing Co., Ltd.* Casio Micronics Co., Ltd. Casio Refre Co., Ltd.	Casio Techno Co., Ltd.
	Casio Computer Co., Ltd. facilities		Hatsudai Head Office Hamura Research & Development Center Tokyo Product Control and Technical Center Hachioji Laboratory
Overseas		Casio Computer (Hong Kong) Ltd.	Pt. Asahi Electronics Indonesia Asahi Industries (Malaysia) Sdn. Bhd. Casio (Malaysia) Sdn. Bhd.

*Received certification in September 1999

Prevention of Environmental Pollution and Chemical Substance Management

1) Prevention of Air and Water Pollution

The Casio Group makes efforts to prevent air and water pollution by setting its own strict standards that surpass legal and regulatory emissions standards. Kochi Casio, which produces LCDs and other electronic devices, possesses the greatest number of facilities within the Group that apply to air- and water-related legal regulations. Data is provided below. Based on an environmental management system, Kochi Casio aims to prevent pollution by implementing strict management for pollutants in all facets of operations.

Air Pollution Measurements at Selected Facilities (Kochi Casio Co., Ltd. in Fiscal 1999)

Facility Name	Particulate (g/Nm ³)			Sulfur Oxides (SO _x) (K value)			Nitrogen Oxides (NO _x) (ppm)		
	Prefectural Regulation	Casio's Standard	Maximum Amount Detected	Prefectural Regulation	Casio's Standard	Maximum Amount Detected	Prefectural Regulation	Casio's Standard	Maximum Amount Detected
Warm and Cold Water Generator No. 1	0.3	0.1	Less than 0.01	17.5	1.0	0.12	180	140	23
Absorption Refrigerating Machine No. 1	0.3	0.1	Less than 0.01	17.5	1.0	0.19	180	140	37
Boiler No. 1	0.3	0.1	Less than 0.01	17.5	1.0	0.11	180	140	53

Waste Water Measurements (Kochi Casio Co., Ltd. in Fiscal 1999)

Parameter		Units	Prefectural Regulation	Casio's Standard	Maximum Amount Detected	Average Amount Detected
Elements that Occur Naturally in the Environment	Hydrogen-ion concentration (pH)	—	5.8–8.6	6.1–8.3	7.6	7.3
	Biochemical oxygen demand (BOD)	mg/l	50	16	11.2	5.8
	Suspended substances (SS)	mg/l	90	20	6	2.5
	N-hexane extractives (n-H)	mg/l	5	4	Less than 1	Less than 1
	Copper content	mg/l	3	0.8	0.03	*
	Zinc content	mg/l	5	4	0.01	*
	Soluble iron content	mg/l	10	8	0.13	*
Toxic Substances	Fluorine content	mg/l	15	9	3.9	2.1
	Lead and lead compounds	mg/l	0.1	0.08	Less than 0.01	Less than 0.01

*Averages are not calculated due to undetected elements in the measurement data.

2) Harmful Air Pollutants

The Casio Group does not employ any of the 13 substances listed in “Promotion of Measures Concerning Hazardous Air Pollutants,” the voluntary guideline established by the Ministry of International Trade and Industry under the Air Pollution Control Law.

3) Chemical Substance Management (PRTR)

Based on corporate reports, Pollutant Release and Transfer Register (PRTR) is a system for the authorities to register, total and publish data on toxic chemical substances released into the air, water and soil, and transferred as industrial waste. Based on PRTR Guidelines for the Electronics and Electric Industry, the Casio Group reports substances to Japan Business Machine Makers Association. In fiscal 1999, nine substances listed in the PRTR Guidelines were reported.

Substance	Amount Handled Applicable to Report	Annual Volume Handled	Emissions and Transferred Amount					Amount Removed	Amount Recycled	Amount Consumed
			Atmosphere	Water	Land	Industrial Waste	Total			
1,4-dioxane	0.1 or more	0.387	0.003	0.000	0.000	0.384	0.387	0.000	0.000	0.000
Toluene	0.1 or more	0.186	0.000	0.000	0.000	0.186	0.186	0.000	0.000	0.000
Chlorine	0.1 or more	0.175	0.000	0.000	0.000	0.000	0.000	0.175	0.000	0.000
Hydrogen fluoride	0.1 or more	0.966	0.000	0.000	0.000	0.750	0.750	0.216	0.000	0.000
Xylene	0.1 or more	25.233	0.000	0.000	0.000	25.233	25.233	0.000	0.000	0.000
Iodine	0.1 or more	0.266	0.000	0.000	0.000	0.266	0.266	0.000	0.000	0.000
Sodium hexafluoride (SF ₆)	0.1 or more	0.434	0.217	0.000	0.000	0.000	0.217	0.000	0.000	0.217
Lead solder	0.1 or more	5.209	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.209
1,1-dichloro-1-fluoroethane [HCFC-141(b)]	0.1 or more	71.367	69.517	0.000	0.000	1.850	71.367	0.000	0.000	0.000

Green Procurement

Casio Computer prioritizes the purchase of products, components and materials with lower environmental impact. On September 1, 1999, we published our fundamental ideas in Green Procurement Guideline to aggressively promote green procurement. We distributed it to approximately 500 of our suppliers the following month to explain our ongoing efforts in this area.

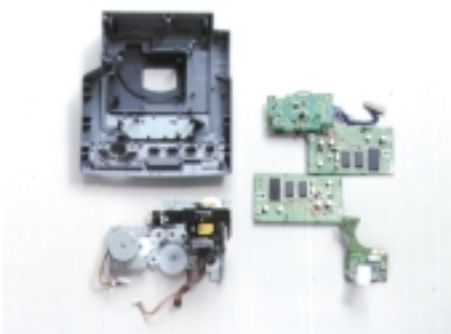


Other

Aiming for Effective Resource Utilization

The Casio Group aims to accelerate product recycling. Among the products collected from sales stores, consumables are reused within the Group in prototype products. Parts collected following dismantling and separation of products are reused as components for repairs, and contribute to the longer utilization of products by users. Following an approximately one-seventieth reduction in volume through the introduction of compressors, portions of plastic packaging materials are partially reused as fuel. Casio is aiming for the 100% reuse of plastic.

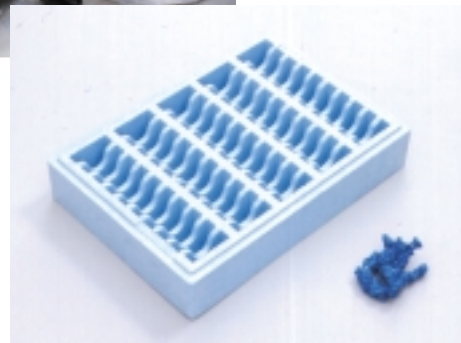
In other areas, Casio Electronic Manufacturing Co., Ltd. has launched efforts toward the establishment of a recovery and recycling system for such consumables as toner and drum sets for page printers.



Used products are dismantled and separated into groups of metal alloys, soldered substrates and plastics. Gold and silver can be collected from soldered substrates after lead removal.



Portions of plastic scraps are converted into fuel following volume reduction to approximately one-seventieth of their original size.



Social Activities

Sponsorship for Environmental NGOs

Casio Computer Co., Ltd. provides sponsorship for the World Wide Fund for Nature (WWF), the world's largest nature conservation NGO, and several other environmental NGOs. Certain Casio products, including watches, reflect a consciousness of the joys of an outdoor lifestyle. When a product's theme and concept lend themselves to such cooperation, we obtain the consent of an environmental NGO to use its logo on our products and in sales promotional materials. The fees paid for such usage serve as funds to support the NGO and its activities. In this way, Casio global brands, including G-Shock and ProTrec, contribute to broadening public awareness for the activities of such NGOs.



WWF model ProTrec watch

Major Sponsorships

Organization Supported	Principal Activity	Products
International Dolphin & Whale Conference	Exchange of information, opinions, and research results (sponsored by I-Search)	G-Shock (watches)
World Coral Reef Conservation Society (WCCS)	Promotion of exchanges of information and international interchange related to the conservation of coral reefs and the protection of marine life diversity	
World Wide Fund for Nature (WWF)	Protection of animals threatened by extinction; protection of tropical rain forests and other ecosystems	ProTrec (watches)
Bird Life International	Protection of birds and their habitats	

Regional Activities

As good corporate citizens, Casio Group companies engage in environmental conservation activities in their communities.



Environmental conservation activity along the Kokubu River (Kochi Casio)



Holding "Clean-up Day" (Kofu Casio)

Date of Activity	Facility	Activity
December 1998	Kofu Casio Co., Ltd.	Holding "Clean-up Day" (General clean-up of area around the factory)
June 1999		
October 1999		
June 1998	Yamagata Casio Co., Ltd.	Clean-up of area along roads in vicinity of Higashine Gymnasium
February 1999	Kochi Casio Co., Ltd.	Participating in cleanups along Kokubu River (event sponsored by Committee for a Clean Kokubu River)

Awards and Prizes Received for Domestic Environmental Conservation Activity



Thermal storage air-conditioning equipment at the Hatsudai Head Office utilizes cold water created using electric power at night to reduce electric power consumption during the day.

Date of Award	Facility	Prize or Award	Reason for Award
February 1995	Kochi Casio Co., Ltd.	Shikoku Regional Electric Power Usage Association Chair's Award for Factory Energy Management Excellence	Excellent management of electric power consumption at factories and offices
May 1995	Aichi Casio Co., Ltd.	Chair's Award from Aichi Prefecture Industrial Site Improvement Association	Addition of gardens and greenery to factory area environment
February 1997	Kochi Casio Co., Ltd.	Director's Award from Shikoku Trade and Industry Bureau for Factory Energy Management Excellence	Excellent management of electric power consumption at factories and offices
February 1998	Hamura Research & Development Center	Best Energy Management Facility Award from Kanto Region Electricity Usage Rationalization	Upgraded efficiency of electric power use
February 1998	Casio Micronics Co., Ltd.	Outstanding Energy Management Facility Award from Kanto Region Electricity Usage Rationalization	Upgraded efficiency of electric power use
February 1999	Hatsudai Head Office	Outstanding Energy Management Facility Award from Kanto Region Electricity Usage Rationalization	Adoption of measures to streamline facility operation and reduce energy consumption

History of Environment-Related Activities

1991	August	Inauguration of Casio Environmental Conservation Committee	1998	January	Kofu Casio Co., Ltd. acquires ISO 14001 certification
1993	January	Establishment of Casio Environmental Charter and CVPE		March	Kochi Casio Co., Ltd. acquires ISO 14001 certification
	December	Abolition of specific CFCs and 1,1,1-trichloroethane		April	Casio Korea Co., Ltd. acquires ISO 14001 certification
1994	October	Revision of CVPE (Second Edition)		July	Revision of CVPE (Fourth Edition)
1995	April	Issuance of Environmental Pamphlet		December	Casio Electromex S.A. de C.V. acquires ISO 14001 certification
1996	April	Revision of CVPE (Third Edition)	1999	June	Establishment of Casio Group Environmental Targets, Clean & Green 21 Initiative
1997	January	Aichi Casio Co., Ltd. acquires ISO 14001 certification		September	Establishment of Green Procurement Guideline
	February	Publication of environmental efforts on Casio web site			Revision of CVPE (Fifth Edition)
	May	Revision of Environmental Pamphlet			Casio Electronic Manufacturing Co., Ltd. acquires ISO 14001 certification
	November	Yamagata Casio Co., Ltd. acquires ISO 14001 certification			

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This mark symbolizes all the Casio Group's activities for the environment in the 21st century.

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