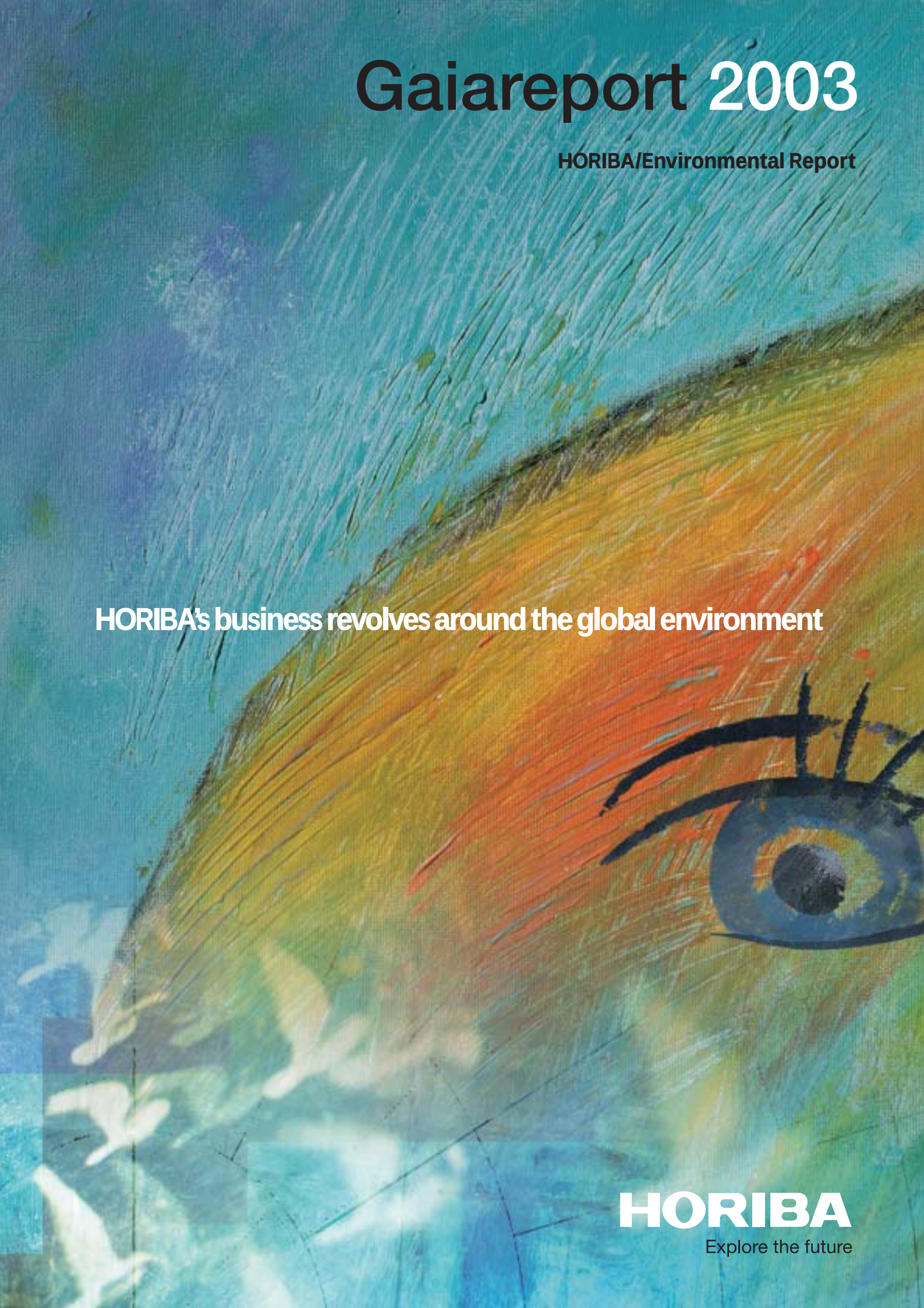
# Gaiareport 2003

HORIBA/Environmental Report



## HORIBA's business revolves around the global environment

HORIBA

Explore the future

# Profile

## Company Outline (As of March 20, 2003)

**Corporate Name:**
HORIBA, Ltd.
**Head Office:**
2, Miyanohigashi-cho, Minami-ku, Kyoto, 601-8510, Japan
**Founded:**
October 17, 1945
**Incorporated:**
January 26, 1953
**Paid-in Capital:**
¥6,577 million
**Employees:**
Consolidated 3,691 Unconsolidated 980
**Fiscal Closing Date:**
March 20, annually
**Stock Listings:**
Tokyo Stock Exchange (1st Sector)
Osaka Securities Exchange (1st Sector)

## Editorial Policy and Coverage

HORIBA, Ltd. has been producing environmental reports since 1999. This report, "Gaiareport 2003," was compiled with the objective of describing the environmental activities conducted at HORIBA, its Head Office, Head Factory and 11 sales offices throughout Japan during fiscal 2002 (March 21, 2002 to March 20, 2003).

Contents:

# Contributing to Societal Wellbeing through Advanced Technologies and Corporate Culture

## Celebrating 50 years

HORIBA, Ltd. has consistently produced top results during the current severe economic environment . This year we are celebrating the 50th anniversary of HORIBA, Ltd. Beginning with a pH meter, HORIBA has strived to contribute to environmental conservation and resolve pollution problems by providing analytical measuring equipment to analyze solids, liquids and gases.

We will seek business expansion to meet modern needs through the development of new technology, including nanotechnology for the semiconductor industry and bio-technology for the medical industry.

In recognition of a rapidly growing world population and the associated environmental changes and resource depletion, HORIBA will strive to promote greater environmental awareness, energy conservation, "zero-emissions," resource recycling and product safety. We prioritize the effective use of mineral and water resources, the prevention of global warming and the reduction of toxic chemicals, to realize a sustainable society.

We will develop our business with the objective to create new corporate value as we continuously work to lessen environmental impact in all operations, including manufacturing and end-products.

## Striving to be a First-Rate Company

The HORIBA GROUP has grown into an organization consisting of 38 Group companies in 22 countries. Operating in a changing world with heightened scientific and technological expectations, we are committed to leveraging our accumulated technological expertise and corporate culture to contribute to societal wellbeing. We will create a balanced management style in Japan, the United States and Europe, while continuously improving product quality and advancing environmental and safety-related activities to further enhance corporate value. We will pursue an active management style based on openness and fairness, with the ultimate objective of being a first-rate company.

I look forward to your continued understanding and guidance.

Atsushi Horiba
**President**

# Enhancing Lifestyles with Unique Technologies

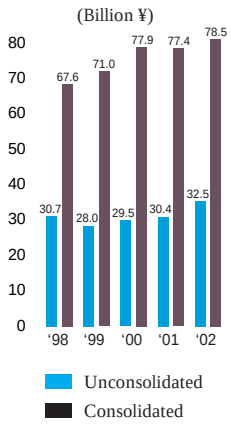
## Business Outline

The HORIBA Group supports industry and enhances lifestyles through the provision of a wide range of high quality, sophisticated measuring and analytical instruments employing state-of-the-art technologies. Utilizing technical know-how developed for semiconductors, electrical equipment, physical science, chemistry, biotechnology and medicine, as well as environmental monitoring and clean energy, the HORIBA Group is striving to expand its business globally. Over half of the group's employees are foreign citizens.

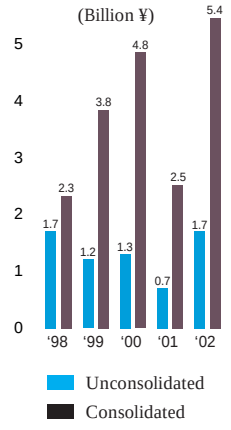
HORIBA conducts business in four distinct areas. First, in the semiconductor and electronic industries, HORIBA's products aid strict quality control in production processes for new materials and semiconductors. Second, in the medical industry, HORIBA provides diverse instruments, especially for testing and analyzing blood. Third, environmental and analytical instruments and systems include over 500 different products for physics, chemistry and new materials research, ranging from pH meters to X-ray equipment. Fourth, in engine measurement instruments and systems, HORIBA is the global market leader.

HORIBA instruments play a vital role in the research and development of clean engines and fuel cells, which reduce the environmental burden of automobiles.

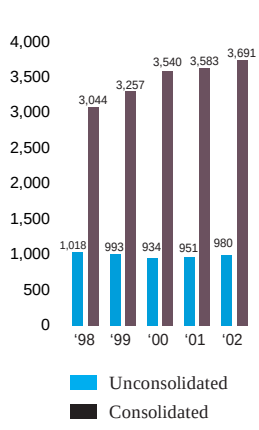
**Net Sales**



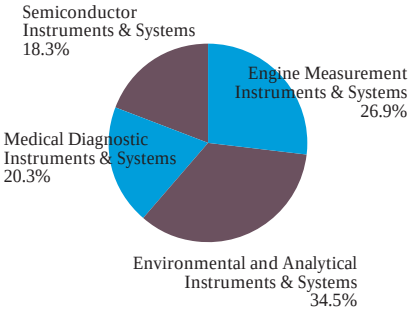

**Operating Income**



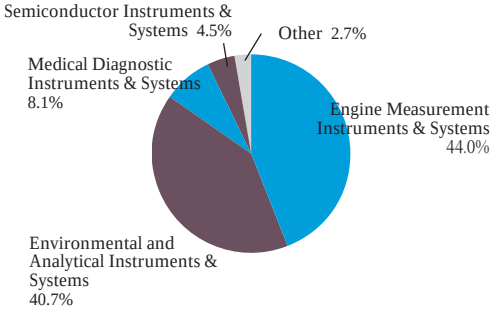

**Number of Employees**




**Sales by Business Segment (Consolidated)**




**Sales by Business Segment (Unconsolidated)**



## Overall Environmental Impact

### Head Office and Factories

| | IN PUT | | |
|---|---|---|---|
| | Item | Unit | FY 2002 |
| Power | Total consumption | TJ | 115.0 |
| Water | Total consumption | $km^3$ | 45.00 |
| Materials | Paper | t | 39.2 |
| | Packaging | t | 207.5 |
| | Liquid nitrogen | t | 989.3 |
| | Liquid oxygen | t | 13.5 |
| | Liquid argon | t | 0.0 |
| Chemical Substances | Total consumption | t | 10.7 |
| | PRTR related chemical consumption (over 10 kg, 8 kinds) | t | 0.63 |
| | Lead consumption (as lead compounds) | t | 0.30 |

| OUT PUT | | |
|---|---|---|
| Item | Unit | FY 2002 |
| Total $CO_2$ emissions | t-$CO_2$ | 4,667 |
| Wastewater discharge | $km^3$ | 45.00 |
| Total waste produced emissions | t | 260.9 |
| Emission into air | t | 989.3 |
| Emission into air | t | 13.5 |
| Emission into air | t | 0.0 |
| Amount transferred (disposed) | t | 1.6 |
| Amount transferred (disposed) | t | 0.2 |
| Emissions (air, water) | t | 0.0 |
| Recycled amount | t | 0.1 |

### Total of 11 Sales Offices

| | IN PUT | | |
|---|---|---|---|
| | Item | Unit | FY 2002 |
| Power | Total consumption | TJ | 7.7 |
| Water | Total consumption | $km^3$ | 1.1 |
| Materials | Paper | t | 9.2 |
| | Packaging | t | 2.2 |
| | Liquid nitrogen | t | 1.2 |
| | Liquid oxygen | t | 0.0 |
| | Liquid argon | t | 3.8 |
| Chemical Substances | Total consumption | t | 0.4 |
| | PRTR related chemical consumption (over 10 kg, 8 kinds) | t | 0.00 |
| | Lead consumption (as lead compounds) | t | 0.00 |

| OUT PUT | | |
|---|---|---|
| Item | Unit | FY 2002 |
| Total $CO_2$ emissions | t-$CO_2$ | 330.0 |
| Wastewater discharge | $km^3$ | 1.1 |
| Total waste produced emissions | t | 13.2 |
| Emission into air | t | 1.2 |
| Emission into air | t | 0.0 |
| Emission into air | t | 3.8 |
| Amount transferred (disposed) | t | 0.1 |
| Amount transferred (disposed) | t | 0.0 |
| Emissions (air, water) | t | 0.0 |
| Recycled amount | t | 0.0 |

### Group Company Information

| Region | Company Name | No. of Employees | Power Consumption (MWh) | Town Gas Consumption ($km^3$) | Water Consumption ($m^3$) | Automobile Fuel Consumption (kl) | Waste Emissions (t) |
|---|---|---|---|---|---|---|---|
| USA | HII (Irvine) | 105 | 515 | 39 | 6,440 | — | 1,050 |
| | HII (Ann Arbor) | 112 | 1,113 | 49 | 10,326 | — | 909 |
| | HII (Tempe) | 7 | 1,200 | — | 1,600 | 50 | 5 |
| EU | HE (Sulzbach) | 106 | 162 | 247 | 338 | 157 | 23 |
| | ABX (QA&BPT) | 468 | 1,842 | — | 11,962 | — | 400 |
| | JOBIN YVON | (187) | (2,900) | — | (10,000) | (38) | (1,100) |
| ASIA | HKL | 44 | 68 | — | — | 4 | 1 |
| | COS | 100 | 240 | — | 6,000 | 26 | 5 |
| | STEC | 352 | 3,860 | 187 | 10,493 | 57 | 51 |

Note: Figures in parenthesis are from fiscal 2001.

# Developing a Comprehensive Global Environmental Management System


## As a Manufacturer of Environmental Measurement Instruments

HORIBA's major product groups produce a wide range of analytical devices to measure car exhaust gas, stack gas, air pollution, water quality and toxic chemicals. HORIBA aggressively promotes environmental management throughout the Group, creating industry standards along the way to business expansion.

We obtained ISO4001 certification in 1997 and created an Environmental Project aimed at energy conservation, waste reduction and lessening chemical risk to counter ozone depletion and global warming. We launched stage two of this project in fiscal 2001, implementing environmentally friendly designs for all new products to reduce their environmental impact.

**Corporate Officer**
Toshihiko Uno

## Improving Environmental Management Systems (EMS)

HORIBA obtained ISO9001 certification for quality assurance in 1993 and was granted ISO14001 certification in 1997 for its environmental management system. Starting in fiscal 2003, HORIBA began a shift to an Integrated Management System (IMS), combining quality, environmental and safety management. The benefits of simplified operation and common goals will strengthen environmental management throughout the Group, ensuing the realization of the long-term vision to reduce our environmental impact.

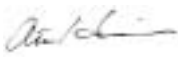
Creating New Corporate Value

**Integrated Management System**

• Quality ISO-9001 • Environment ISO-14001
• Worker Health & Safety OHSMS

Through the promotion of an integrated management system which pools the knowledge of all our employees, we seek to raise the brand value of the HORIBA Group and enhance corporate quality.

President Atsushi Horiba



**Corporate Philosophy**

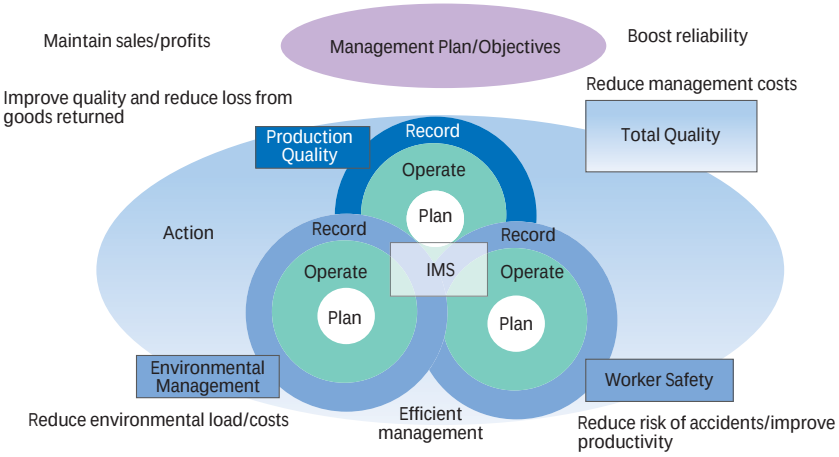
To Constantly Broaden Our Horizons to Ensure a Prosperous Future for All

Promoting the Protection of Our Earth and Coexistence with the Natural Environment

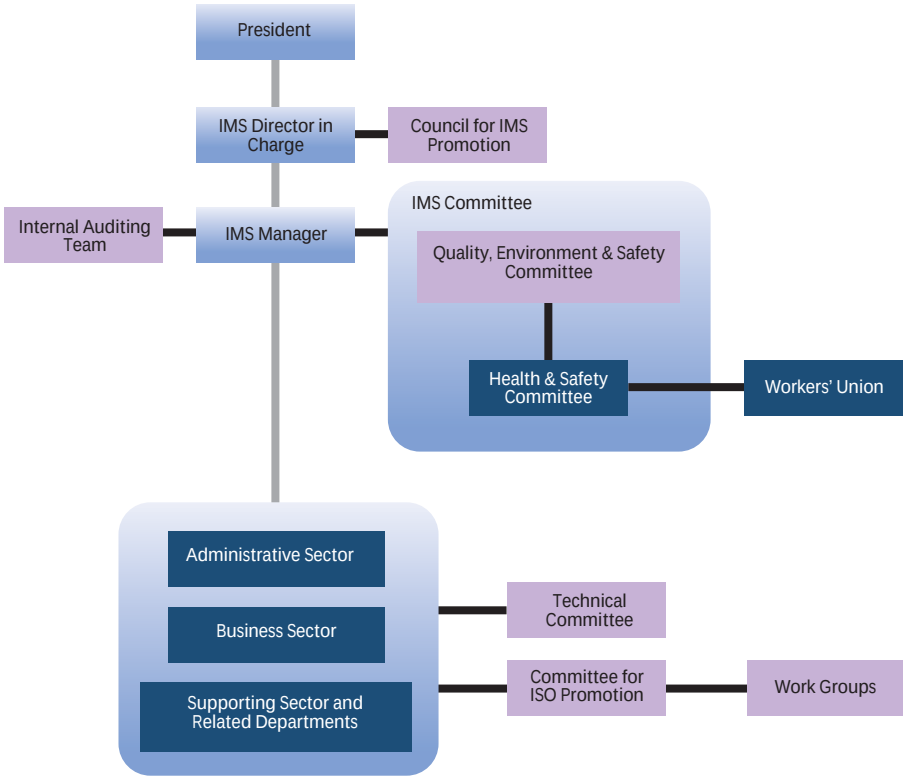
**Integrated Management Policy**

1. We will meet diversified customer needs by providing products and services created with an environmentally friendly production system.
2. We will comply with all laws and local regulations to promote mutual prosperity.
3. We will strive for continuous improvement through the establishment of appropriate business goals and objectives plus the plans to achieve them.

## Outline of Integrated Management System (IMS)




## IMS System



Initial IMS Meeting

## Introducing IMS

### ■ ISO Management

HORIBA has obtained internationally recognized ISO certifications for both quality and environmental management systems, Viewing these qualifications as essential, HORIBA continually strives to improve quality and environmental management performance to expand customer and society trust in the company and raise brand image.

### ■ Changes in ISO Conditions

The harsh business climate has created a demand for even higher quality. Aggressive development of an efficient management system incorporates ISO standards into company policies.

Furthermore, compliance and risk management and full disclosure of information are increasing in importance as the public demand grows for corporate social awareness and ethical business operations. Increased safety concerns have led to the establishment of the Occupational Health and Safety Standard (OHSAS).

### ■ Potential Problems with ISO

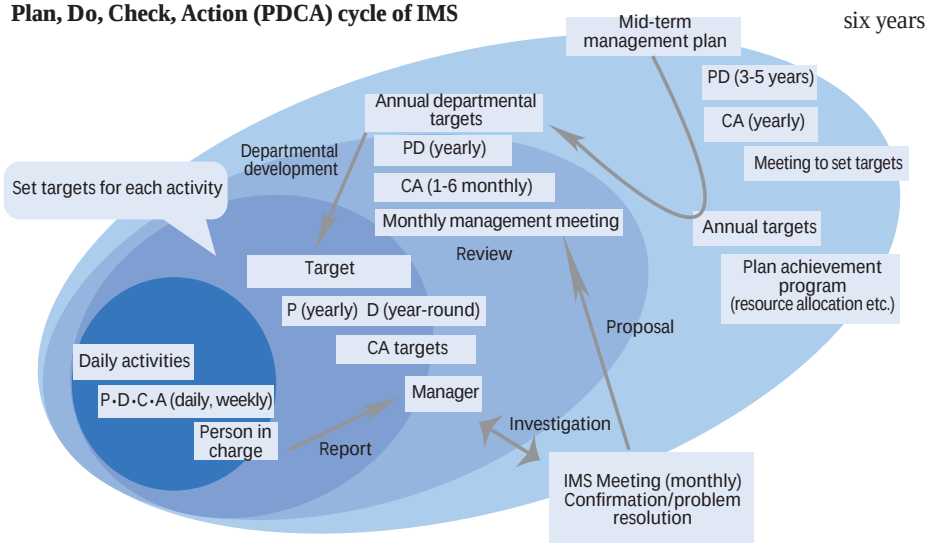
There has been duplication of effort and documents as systems and records have been independently managed, creating unnecessary cost. In addition, complex and often routine operations have caused a drop in employee interest. It is therefore essential to have a streamlined and efficient management system to generate desired results.

### ■ Improving System Management

HORIBA attained the ISO 9001 Standard for quality management 10 years ago and the ISO 14000 Standard for environmental management six years ago. Since the introduction of these standards HORIBA has strived to implement objective policies and strategies to optimize company operations. With the cooperation of ISO investigatory bodies, HORIBA has been able to create its IMS, encompassing not only quality and environmental ISO Standards but also OHSAS.

The basic framework for the IMS system was completed in fiscal 2002, with fiscal 2003 slated as the trial period. Full-fledged operation of the system is scheduled for fiscal 2004.

**Plan, Do, Check, Action (PDCA) cycle of IMS**



## Enhancing Environmental Activities

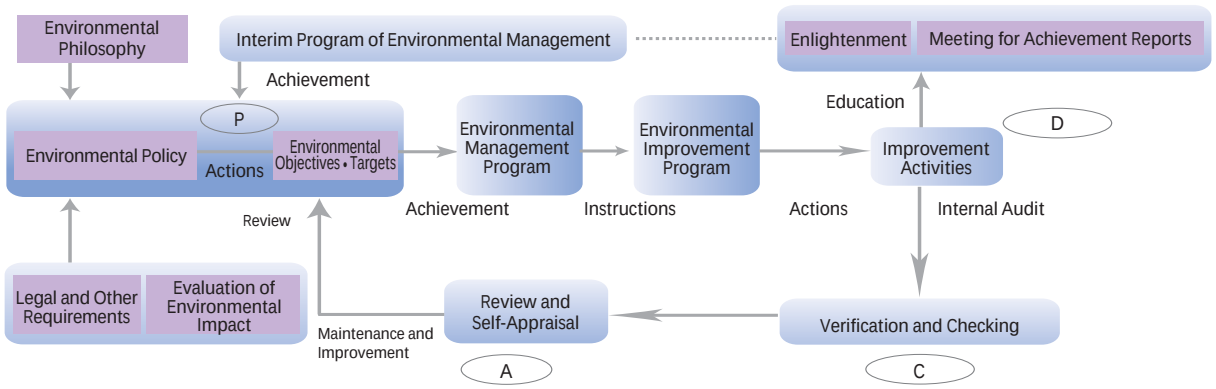
Environmental Project Stage 2 was launched in 2001.

The following are objectives for the final year of the plan, fiscal 2003.

1. Implement EMS in all Group and affiliated companies.
2. Aim for "zero-emissions."
3. Promote environmentally-applied design.
4. Reduce the use of harmful chemical substances and $CO_2$ emissions.

— HORIBA will make the necessary investments to ensure the plan is successfully carried out. Stage three of the project will be formulated this fiscal year with the objective of further reducing environmental impact, raising cost performance and bolstering the integrated management of quality, environment and safety.

**Environmental Management System Flow Chart**

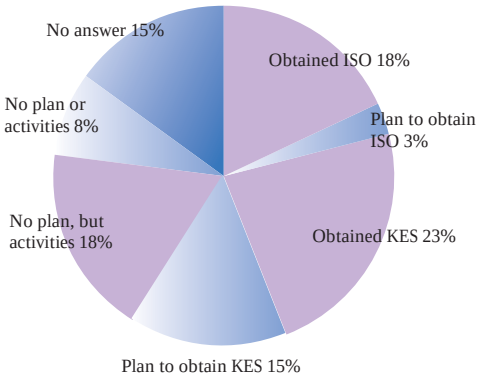



## Promoting EMS Globally

### ■ EMS at Group Companies

The creation of an EMS at each of HORIBA's 12 production companies - two in Japan and 10 overseas - has been progressing smoothly with the provision of environmental information, ISO certification applications and support activities. At present, HII and HAD in the United States have obtained the ISO qualification, while ABX and HE in Europe and STEC Inc. in Japan are preparing to attain qualification.

**Status of EMS at Affiliates**




### ■ Supporting EMS Creation at Affiliates

HORIBA held its third EMS Creation Seminar. During the seminar a questionnaire was presented to the 64 major affiliated companies. Twenty three percent of these companies have obtained the Kyoto Environmental Management Standard (KES) drafted by the Kyoto Agenda 21 Forum* for small- and medium-sized businesses. In all, 59 of these companies are actively implementing EMS activities. Other results can be seen in the graph at left.

*Kyoto Agenda 21 Forum: A body formed in November 1998 with the task of developing a society that exists in harmony with the environment, with joint participation by the city, its residents and business

## Environmental Project Stage 2 Outline

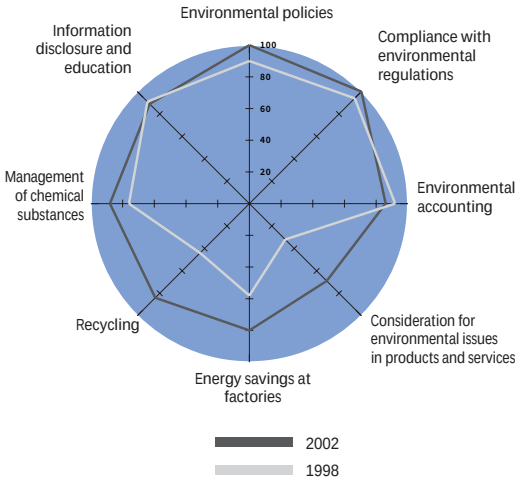
| Theme | Fiscal 2002 Action and Achievements | Targets for FY 2003 |
|---|---|---|
| A. Promote Environmental Management | 1. Maintain and enhance Environmental Management System (EMS) | * Establish EMS at all production companies<br>* Implement SO and SS<br>* Create "information net" for purchasing and promote awareness/support activities |
| | 2. Continually improve self-appraisal system | * Improve GP-21 (Green Point 21 self-appraisal system) by 65% (1998 standard) |
| | 3. Create an environmental accounting system and promote effective and economic conservation | * Maintain environmental accounting (costs at 0.5% of sales) |
| B. Create Environmentally Friendly Products | 1. Develop environmentally friendly products and expand product reuse and recycling | * Apply environmentally friendly designs to over 60% of new products<br>* Achieve 100% green procurement<br>* Reuse over 60% of collected products |
| C. Implement Eco-Conscious Production System and Activities | 1. Reduce environmental impact and aim for "zero-emissions" | * Reduce electricial consumption by 15%, $CO_2$ production by 3% and surplus by 30% (2002 standard)<br>* Reduce waste to less than 1% (final waste at landfill), and less than 50% (total waste) (FY 2002 standard)<br>* Boost the resource recycling rate to 75% |
| | 2. Advance strict adherence to regulations<br>3. Enhance chemical management and reduce the use of harmful substances | * Create a management system<br>* Reduce chemical inventories and harmful substances by 30% each |
| D. Energize Communication | 1. Promote disclosure of information | * Effectively utilize information |
| | 2. Enhance contribution to society | * Advance internal awareness activities |

## Environmental Project Stage 2 Results and Targets

| Theme | Theme | FY 2002 Targets | Fiscal 2002 Results | Self-Evaluation | Fiscal 2003 Targets |
|---|---|---|---|---|---|
| A. Promote Environmental Management | 1. Maintain and enhance Environmental Management System (EMS) | * Transmit information and reduce impact at 13 production companies<br>* Reduce impact at local sites<br>* Utilize green procurement forum; conduct EMS research | * Obtained ISO certifications at 2 sites<br>* Enhanced environmental performance understanding at 8 companies<br>* Commenced activities at 4 SO and 7 branches<br>* Conducted first EMS Workshop | ○ | * Establish EMS at all production companies<br>* Implement 22 SS<br>* Create "information net" for purchasing and promote awareness/support activities |
| | 2. Continually improve the self-appraisal system | * Achieve 700 in GP-21<br>* Seek external recognition | * GP-21: 705 points<br>* Awarded Chairman's Prize by the Council for Recycle Promotion | ○ | * Improve GP-21 (Green Point 21 self-appraisal system) by 65% (1998 standard) |
| | 3. Create an environmental accounting system; promote effective and economic conservation | * Attain 0.5% costs against sales<br>* Attain 20% developmental costs against investment | * Maintained costs at 0.5% of investment | ○ | * Maintain environmental accounting (costs at 0.5% of sales) |
| B. Create Environmentally Friendly Products | 1. Develop environmentally friendly products; expand reuse and recycling | * Apply environmentally-friendly design to all new products<br>* Create lead-free technology<br>* Reuse 50% of collected products | * Implemented environmentally applied design in 9 out of 22 products<br>* Researched technology for lead-free printed circuits<br>* Reduced polyester packaging by 27%<br>* Collected products: 175 points; reused 95 points (54%) | △ | * Apply environmentally friendly design to over 60% of new products<br>* Develop technology for lead-free print circuit solders<br>* Create reuse/recycling system (Reuse over 60% of collected products) |
| C. Implement Eco-Conscious Production System and Activities | 1. Reduce environmental impanct and aim for "zero-emissions" | * Reduce electricial consumption by 3%<br>* Reduce $CO_2$ emission into the environment by 2%<br>* Reduce surplus by 10% and inventories by 20%<br>* Reduce waste deposits at landfill to less than 30% of waste<br>* Reduce emissions by 25%<br>* Boost recycling rate to over 65% | * Energy-savings: Decreased power consumption factor by 3.8%<br>Reduced $CO_2$ load by 19%<br>* Reduced surplus by 20%<br>* Final waste at landfill: 30%; reduced emissions by 30%; resource recycling rate: 40% | △ | * Reduce electricial consumption by 15% and $CO_2$ emission by 3% (FY 2000 standard), and surplus and inventories by 30% (FY 2001 standard)<br>* Reduce waste to less than 1% (final waste at landfill), and less than 50% (total waste) (FY 2002 standard)<br>* Boost resource recycling rate to 75%<br>* Create a management system<br>* Reduce chemical inventories and harmful substances by 30% each (FY 1999 standard)<br>* Reduce use of harmful substances by 30% (FY 2000 standard) |
| | 2. Comply with rules and regulations | * Implement stable monitoring system<br>* Research a data management network<br>* Enhance compliance and self-evaluation | * Implemented internal monitoring system; installed city gas sensors | △ | * Create system to boost awareness and reduce environmental impact of chemical substances |
| | 3. Reduce harmful substances | * Reduce harmful substances by 20%<br>* Reduce inventories by 20% | * Reduced use of harmful substances by over 30% and inventories by 30% | ○ | * Effectively utilize information<br>* Advance internal awareness activities<br>* Complete shift to IMS |
| D. Energize Communication | 1. Promote information disclosure | * Release Gaiareport in mid-June for Japanese and end of June for English<br>* Hold EMP meetings, presentations<br>* Commence eco-label | * Released Japanese environmental report in June<br>* Introduced independent environmental labels (2 products)<br>* Reduced noise level | ○ | * Utilize environmental information |
| | 2. Enhance contribution to society | * Conduct more than 3 activities<br>* Reduce paper use, packaging materials | * Performed 4 social contribution acts<br>* Conducted 32 independent enlightenment activities | ○ | * Social Action Program<br>* Establishment and promotion of in-house enlightment activities |
| E. Supplementary | | | * Started trial of IMS | | * Shift to Integrated Management System now complete |

* Note: Self-Evaluation Category: ○ = Goal achived; △ = Achieved more than 80% of goal ; × = Achieved less than 80% of goal

**Self-Evaluation of Environmental Activities**




## Green-Point 21

The degree of environmental management is self-appraised on an eight-point scale, as seen in the diagram at left, using fiscal 1998 as a baseline. HORIBA strives to make improvements in each area, focusing on weaker sections to continually enhance its environmental management system. HORIBA expects to raise targets for fiscal 2003 by 65%. Furthermore, a new evaluation system is now in the planning stage. This Green-Point system was formulated by Hitachi, Ltd.

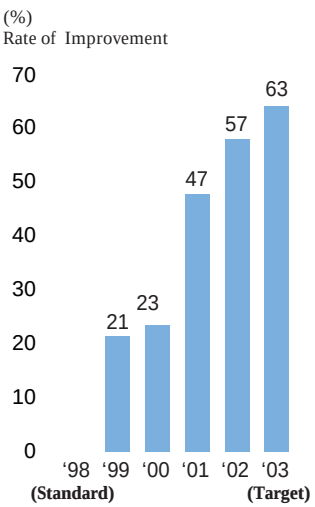
## Clarified Areas for Improvement

HORIBA focuses on implementing policies, establishing regulations, transmitting information and enhancing education. Consequently, Group-wide environmental awareness is heightened and results, such as energy-savings, are achieved. With the launch of the Environmental Project Stage 2, HORIBA aims to further strengthen eco-conscious products, chemical substance management, resource recycling and globalization of environmental management.

## Targets Reached

ISO14001 certification was attained in June 1997, laying the foundations for environmental management. In 1998, HORIBA introduced a self-evaluation system and intends to raise targets by 65% in fiscal 2003. After a review of the fiscal 2000 action plan, HORIBA formulated the Environmental Project Stage 2, which was initiated in 2001.

**Self-Evaluation of Environmental Activities**



## Obtaining ISO14001 Certification

By June 1997 the HORIBA Head Office and all HORIBA factories obtained ISO 14001 certification. In fiscal 2001, HORIBA extended its environmental improvement activities to its 11 sales offices. Moreover, the HORIBA goal is to attain the certification at the 21 nationwide service centers of its sales subsidiary, Horiba Techno Service Co., Ltd., from fiscal 2003. HORIBA will also provide support and guidance to the Group's production companies in preparation for attaining ISO 14001.

## Environmental Monitoring

HORIBA regularly conducts internal environmental monitoring audits in each of its 38 departments. HORIBA has established annual guidelines for each department to ensure all ISO requirements are met. In the past year the average number of nonconformance cases decreased from 1.13 to 0.92, representing a 19% improvement.

Environmental monitoring

## Observation of Laws and Preventative Maintenance

As HORIBA's production facilities have relatively minor impact on the environment, they do not specifically fall under requirements set by environmental protection laws. The Company does, however, enforce strict adherence to rules and regulations in its daily operations, and has established parameters that apply to its business practices at all sales sites.

Information concerning new laws is promptly disseminated throughout the Group. To prevent accidents HORIBA conducts regular inspections of its environmental facilities and performs essential safety drills. HORIBA is constantly striving to reduce toxic chemical inventories.

## Education and Enlightenment Activities

HORIBA promotes environmental and safety training for all employees. Specialized training is based on departmental goals and needs for facility maintenance and environmental management. When necessary, competency evaluations are performed to improve skill levels and attain legal certifications. Employees are also instructed in proper techniques for chemical management and waste separation.

Lectures, an in-house network and internal magazine are used to train employees. Participation in EMS seminars to review monthly results and recent environmental topics is also encouraged.

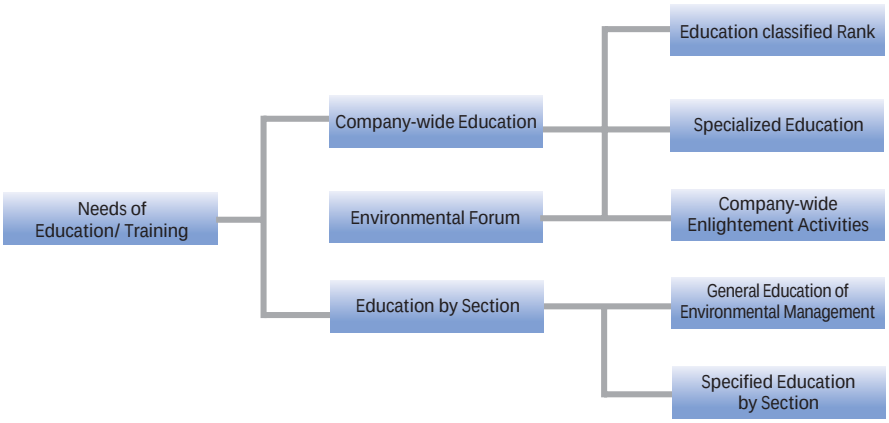
Emergency training in the clean Room

Emergency training with drains

**Holders of Major Environment-Related Qualifications**

| | |
|---|---|
| Environmental Analyzing and Measuring Manager | 7 |
| Pollution Prevention Manager (General) | 2 |
| Pollution Prevention Manager (Air) | 26 |
| Pollution Prevention Manager (Water) | 25 |
| Pollution Prevention Manager (Others) | 8 |
| Energy Manager | 4 |
| Chief Electrical Engineer | 16 |
| Manager, Specially Controlled Industry | 1 |
| Chief Engineer for Radioactive Substances | 8 |
| Poisonous and Harmful Substance Supervisor (Manufacturing industry) | 2 |
| Poisonous and Harmful Substance Supervisor (Sales industry) | 1 |
| Working Environment Measurement Expert | 4 |

## Education System




## Developing Internal Environmental Auditors

Seven employees were dispatched to external organizations in fiscal 2002 to receive training on auditing procedures. There are now 49 environmental auditors and 31 senior auditors in the company. HORIBA intends to implement an integrated auditing system in fiscal 2003.

## Training for Emergencies

HORIBA conducted regular drills for emergency training, accident prevention and evacuation procedures for 350 employees in three departments. The drills were monitored and the results were reviewed to reinforce emargency prevention and practices.

## Legal Qualifications

HORIBA always encourages its personnel to attain legal qualifications to raise education levels related to R&R, production and sales. Qualified personnel receive financial incentives.

# Promoting Proactive Environmental Accounting

## Overview

In fiscal 1999 HORIBA introduced environmental accounting as an important tool for environmental preservation activities and management. HORIBA discloses environmental activity information to enhance openness and promote environmental management.

In compliance with the guidelines of the Ministry of the Environment of Japan (2002 Version), HORIBA supplies information for all domestic sites. We will continue to improve environmental management efforts to ensure effective cost control of environmental effects throughout product life cycles.

## Environmental Accounting in FY 2002

In addition to raising awareness of costs and effects by promoting energy-savings, zero-emissions and environmentally applied design, we increased the operational efficiency of our EMS. Furthermore, we continued to develop low-energy products and calculate the savings benefit on our customers' electrical consumption. HORIBA will now seek to implement environmentally applied design in more products and bolster understanding of environmental costs and effects over the entire product life cycle.

## Analysis of FY 2002 Accounting Effects

In fiscal 2002 a total of ¥30.0 million was invested in environmental preservation activities, a 52% increase over the previous year. Total expenses amounted to ¥719.0 million, up 1.7%. A primary focus was to improve energy-conservation and implement new facilities for product development.

Although HORIBA reduced management activity costs by 15%, costs related to activities to reduce energy and resource consumption rose 27.8%, with social contribution costs increasing 20%.

We reduced the amount of $CO_2$ emissions (energy and service water related) by 346.6 tons, or 6.7%, through sales fluctuation adjustments. Although energy consumption remained roughly on par with the previous year, we were able to reduce the overall power consumption factor by 3% through efforts to save energy used by air-conditioners, which consume 60% of total energy. We also reduced the use of town gas by 19%.

Efforts continue to reduce consumption of chemical materials with the ultimate objective of zero-emissions. We also promoted recycling of resources, improving our recycling rate by 2.1 points and reducing the power consumption factor of harmful emissions by 6.4%. Moreover, the introduction of environmentally applied designs in new products helped raise gross sales of energy saving products by 137%.

Cost of materials increased 1% despite the utilization of lead-free printed circuit boards.

## Future Initiatives

HORIBA will concentrate on raising product quality as well as worker health and safety. The company will implement an IMS in fiscal 2003 to improve operating efficiency. In the future, we will create an index related to management quality to ensure continuous improvement of corporate development and increased environmental, health and safety awareness.

**Standards for Environmental Accounting**

| | |
|---|---|
| Coverage | : Head Office/factory, 11 sales offices |
| Period | : March 21, 2002 to March 20, 2003 |
| Investment/ expenditure | : Figures for FY 2001 has been revised in line with a review of accounting methods and in compliance with financial accounting standards. |
| Expenditure | : Includes personnel, management and research costs (not depreciation). |
| I) Personnel costs | : Average labor cost multiplied by the number of working hours related to environmental preservation. |
| II) R&D expenses | : Includes research costs related to R&D expenses (materials, personnel costs) and environmental preservation activities. |

**Calculation effects**

| | |
|---|---|
| I) Amount reduced | : Amount in previous year minus amount in current year. Changes in the amount of business activities have been adjusted for in the calculation of income and expenses. |
| II) Economic effects | : Based on the useful life (usually six years) of major capital investments, as well as products with greatest environmental impact and environmental preservation activities. |

III) Energy-savings in fiscal 2002 are calculated in relation to environmentally-friendly products sold.

## (1) Costs and Effects of Environmental Preservation Activities

(Million ¥)

| Item | | Investment | Expenditure | Total | Change % | Measures Taken | Economic effects (Internal) Amount | Classification | Item | Reduction of $CO_2$ emissions (minimal effects) t−$CO_2$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FY 2002 | | | | | | | | |
| (1) Business Area | | 6.6 | 64.8 | 71.4 | 103.3 | | 138.0 | | | 1,402.8 |
| Details | 1. Pollution prevention | 0.0 | 5.8 | 5.8 | 64.0 | Pollution prevention; regulation compliance (P.17, 18) | 8.9 | a | Reduced power, monitored hours; increased efficiency etc. | 416.1 |
| Details | 2. Environmental preservation | 5.6 | 12.6 | 18.3 | 86.0 | Prevent global warming/ozone depletion; energy-conservation; reduce harmful chemicals (P.16) | 17.1 | b | Reduced/eliminated substances that effect global warming etc. | 450.3 |
| Details | 3. Resource recycling | 1.0 | 46.4 | 47.3 | 122.0 | Effective water use; reduce waste (zero-emissions); promote recycling; improve productivity; reuse surplus (P.18, 19) | 112.0 | a | Reused surplus; reduced water consumption/waste etc. | 536.4 |
| (2) Upstream/downstream | | 0.0 | 6.3 | 6.3 | 82.5 | Green procurement; package recycling; collect and reuse used products (P.19) | 11.7 | b | Sold recycled products; collected and reused products etc. | 56.6 |
| (3) Maintenance and management | | 0.3 | 92.0 | 92.4 | 84.5 | Effectively use EMS; information disclosure and advertising; reduce harmful chemicals; environmental education (P.10, 11) | 24.1 | b | Enhanced education/management/advertising etc. | 0.0 |
| (4) R&D | | 23.1 | 513.5 | 536.6 | 100.9 | Develop eco-conscious products; promote environmentally applied design; eliminate use of lead (P.14, 15) | 1,275.0 | b | Boosted profit margins through effective R&D and eco-conscious products | 0.0 |
| (5) Social activities | | 0.0 | 42.5 | 42.5 | 1203.4 | Provide information on acid rain/environment; support various forums; promote education at schools; enhance volunteer activities; expand green activities and environmental communication (P.21, 22) | 3.8 | b | Environmental advertising effects etc. | 0.0 |
| (6) Damage to environment | | 0.0 | 0.0 | 0.0 | 0.0 | | | | | 0.0 |
| Total | | 30.0 | 719.1 | 749.1 | 103.8 | | 1,452.5 | | | 1,459.4 |

a: actual effect
b: minimal effect

**Note: Related index (Millions ¥ unless stated)**

| Item | |
|---|---|
| Capital investment | 1,000.0 |
| R&D | 1,278.1 |
| Eco-conscious products (%) | 42.0 |
| Investment in environment (Environmental investment/capital investment) (%) | 3.0 |
| Cost of sales (%) | 2.3 |

## (2) Environmental Preservation Effects

Indirect environmental load during product use (compared to previous year)

| | | IN PUT Item | Unit | Change | OUT PUT Item | Unit | Change |
|---|---|---|---|---|---|---|---|
| Effect of activities | Energy conservation | Power, town gas, fuel | TJ | 8.0 | $CO_2$ emissions | t-$CO_2$ | 346.6 |
| | Water | Water consumption (well-water, city water) | $km^3$ | 4.1 | Waste water produced | $km^3$ | 4.1 |
| | Materials | Paper, packaging, materials | t | 11.0 | Total waste produced emissions | t | 59.7 |
| | | Liquid $N_2$, $O_2$, Ar | t | -17.2 | Air emissions | t | -17.2 |
| | Chemical substance use | Chemical substance use | t | 0.9 | Waste transferred | t | 1.5 |
| | | PRTR related chemical consumption (over 10kg, 8 kinds) | t | 0.5 | Waste transferred | t | 0.3 |
| | | | | | Emissions (Air, water) | t | 0.0 |
| | | Lead consumption (compounds) | t | 0.1 | Recycled amount | t | 0.0 |
| Effects during product use (Internal) | | | | | No. of units: 5,146 | t-$CO_2$ | 831.7 |

**• Environmental Preservation Effects and Customer Economic Effects**

| Environmental Preservation Effects (Millions ¥) | |
|---|---|
| Environmental Performance Improvement (Reference) | |
| | 18.7 |
| | 23.2 |
| Total | 41.9 |

Note: $CO_2$ calculation: ¥9,425/ton-$CO_2$; maximum estimate of ¥34,560/ton-C to achieve targets set by Kyoto Protocol

## (3) Internal Economic Effects

Effect on cost reductions and profits of environmental preservation measures

| Item | Item | Amount (Millions ¥) |
|---|---|---|
| Cost reduction | Energy-conservation | 9.9 |
| | Reduction of waste disposal costs | 4.3 |
| | Reduction of wastewater costs | 2.7 |
| | Reduction of packaging, materials | 0.42 |
| Profit | Sale of goods from recycled waste | 0.04 |
| | Sales of goods from recycled products | 4.72 |
| Total | | 22.06 |

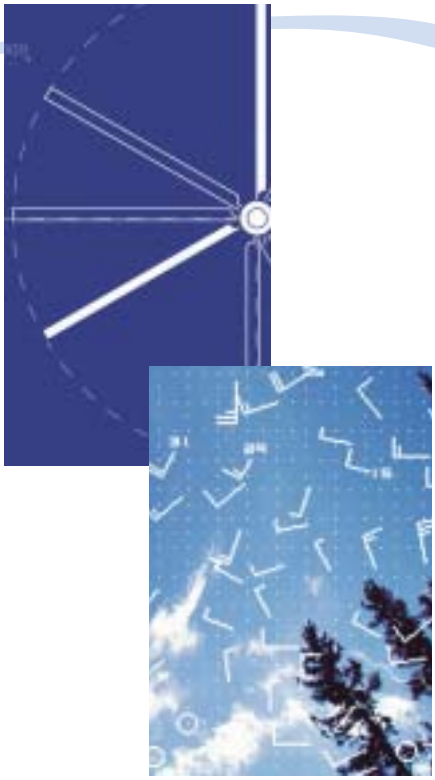
## (4) Customer Economic Effects

Reduction of power costs during product use

| FY | Units Sold | Energy Saved (10,000kw/h) | Amount Saved (Millions ¥) |
|---|---|---|---|
| 2002 | 5146 | 154.9 | 23.2 |
| 4-year total | 10749 | 226.7 | 34.0 |

Note: There are 40 products related to energy-saving; electricity costs are calculated at ¥15 per kw/h

# Providing Eco-Conscious Products with Environmentally Applied Design



## R&D

### ■ Product Development for a Sustainable Society

HORIBA desires to provide low-impact products by utilizing environmentally applied design. In 2002, we introduced environmentally friendly designs in 22 new products, nine of which have passed internal standards. Future products will not only realize resource and energy savings but also longer-life and higher reuse/recycling rates.

## Environmentally Applied Design in Action

### ■ New System for Measuring Total Nitrogen and Phosphorous (TPNA-300)

This new system has improved operation efficiency by incorporating the ultraviolet acidolysis decomposition method, which reduces reagent consumption during measurements. Furthermore, power consumption is less than half and the size is reduced to 52%, when compared with earlier products.

(Compared to conventional products)
Amount of reagent..... approx. 1/10
Water consumption..... approx. 1/10
No. of replacement parts..... approx. 1/2
Measuring waste..... pprox. 1/5
Power consumption..... approx. 1/2

This product was developed to meet the specifications of the fifth series of water quality regulations that are scheduled to become effective in 2004. The new rules make it necessary to measure not only total nitrogen and phosphorous but also COD at sites where drainage is over 400m³. The TPNA-300 accomplishes this.

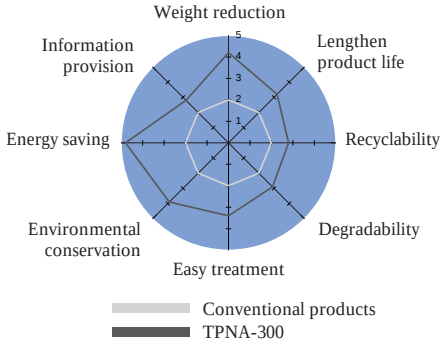
Total nitrogen/phosphorous analyzer: TPNA-300

### ■ FG-120 Compact FTIR Gas Analyzer

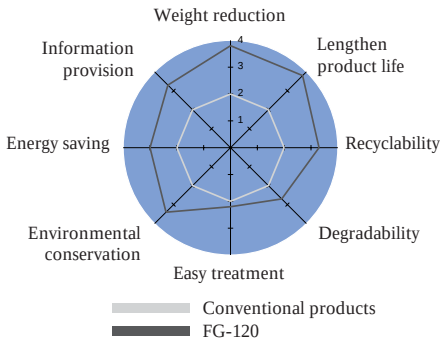
This product achieves a 44% reduction in space requirements as well as a 44% reduction in power consumption. The FG-100 series is designed for gas analysis in semiconductor and FPD production processes, plus greenhouse gases and PFCs, and is therefore an essential instrument in the fight to prevent global warming. HORIBA has developed both single-cell and dual-cell instruments, which are portable and may be applied to a wide range of applications.

Compact FTIR gas analyzer: FG-120

**TPNA-300 Applied Design Evaluation**




**FG-120 Applied Design Evaluation**




Lead-free pH-meter: F-50

■ **Promoting Lead-free Products**

In fiscal 2000 HORIBA commenced a new program to reduce lead in its printed circuit boards as part of its environmental management program. Although these products were already being used in some MD players and other products from major manufacturers by 1998, patent license issues delayed the full removal of lead from printed circuit boards, restricting product introduction activities to lectures and exhibitions. Once these issues were settled, HORIBA reinitiated production of lead-free printed circuit boards.

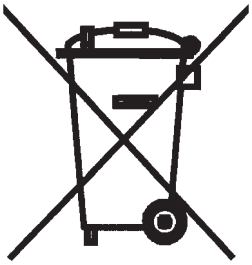
HORIBA intends to totally eliminate the use of lead by 2004 under the third draft of European directives. Although the fourth and fifth drafts are scheduled for 2006 and 2008, respectively, HORIBA will push ahead with measures for early elimination of lead from its operations. As a result of this program we were the first in the industry to launch lead-free pH-meters, in the F-50 and D-50 series, in May 2003.

## Topics

■ **EU Directive on WEEE and RoHS**

To increase the quality of life and protect the environment regions such as the United States, Europe and Japan are promoting waste recycling and the reduction of harmful substances. As one example, the EU directive on Waste and Electronic Equipment (WEEE) was enacted in early 2003 to increase reuse and recycling rates. At the same time, additional directives for Electrical & Electronic Equipment (EEE) and Restriction of the use of certain Hazardous Substances in EEE (RoHS) were also issued.

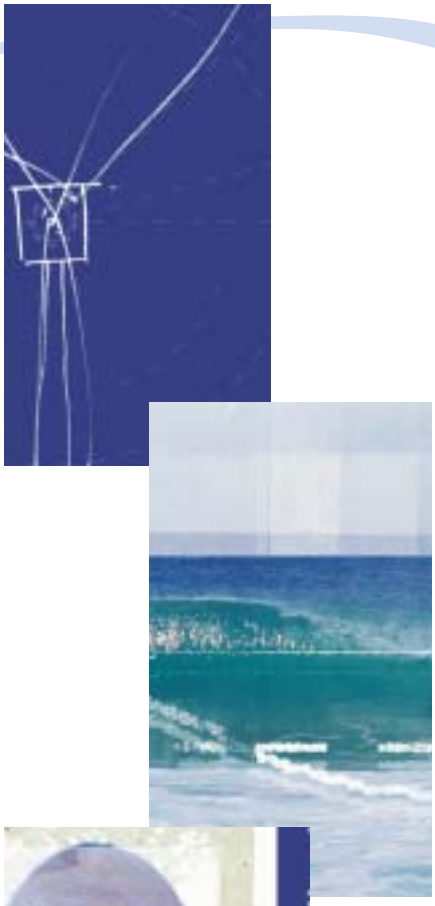
Accordingly, HORIBA initiated a Group-wide project in line with these directives, creating a system to support the general center for quality, environment and safety, participating in the technical council for electricity, equipment and chemicals and the board assembly team. HORIBA will issue product design policies and release detailed information about our operating methods to our customers and others. The HORIBA Group also intends to set guidelines for use of chemical substances in areas outside the EU.



Mark for equipment that comply with WEEE

WEEE: Waste Electrical & Electronic Equipment
EEE: Electrical & Electronic Equipment
RoHS: Restriction of the use of certain Hazardous Substances in EEE

# Eco-conscious Production Incorporating Environmental Design Technology



## Eco-conscious Production Activities

### ■ Reducing Energy & Resources

HORIBA has initiated procedures to cut power consumption and reduce waste and OA paper. As part of our compliance efforts, we also promote prevention and protection activities by establishing an internal environmental management system (EMS). As part of this program we adhere to good environmental "manners" by turning off lights during lunch periods and switching off equipment during holidays.

### ■ Decreasing $CO_2$ Emissions to the Environment

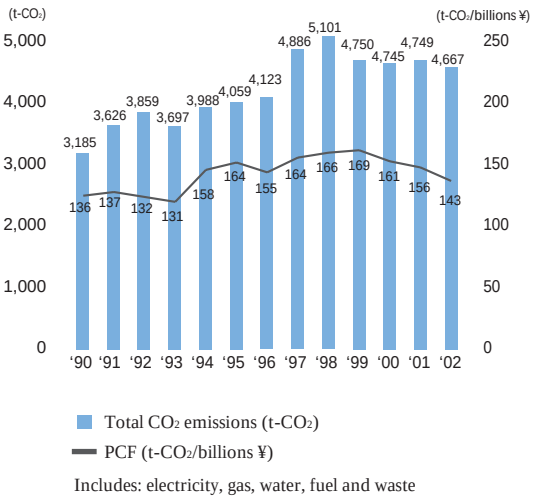
We reduced running costs of high-electrical-consumption air conditioners through the GHP system. Although overall power consumption increased for the fiscal period, due to higher production levels and unusual weather patterns, we were able to reduce the amount of town gas consumption, the total amount of $CO_2$ emissions by 1.7% and the power consumption factor by 8.1%.

HORIBA will continue to reduce service water use and waste, which are other causes of global warming, while aiming to maintain $CO_2$ emissions at 1990 levels until at least 2010. In keeping with the Environmental Project Part 2, we will strive for "zero-emissions" by reducing energy consumption by 1% annually.

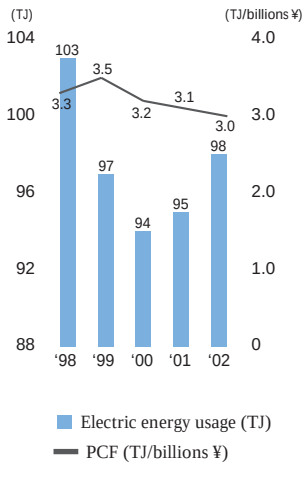
### ■ Cutting Electricity Usage

Despite introducing energy-saving equipment such as inverters and sprinklers and stopping non-essential equipment, an unusually warm winter coupled with continuous operation of air conditioners caused consumption to increase 3% over the previous year. The power consumption factor decreased 3.8% to 304 MWh/billion yen.

**Total $CO_2$ Load on Environment**

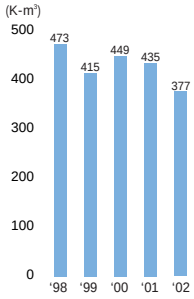



**Electric Energy Usage**

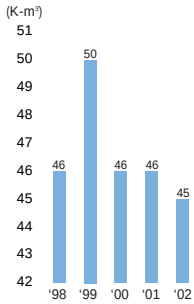



Includes: electricity, gas, water, fuel and waste

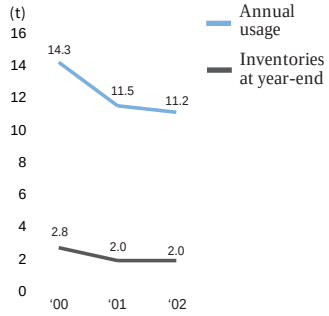
**Town Gas Consumption**




**City Water Consumption**




**Reduction of Chemical Substances**




## ■ Town Gas Consumption

We made a significant reduction in town gas consumption of 14%, year on year, by cutting the amount of energy used by our air conditioners through such measures as eliminating the use of a water generator when the sensible heat load is low in winter, introducing a new system in the cooling towers and eliminating dual use of water coolants.

## ■ City Water Consumption

As a result of conserving 190m$^3$ of water by controlling overflow in the cooling tower and stopping the use of coolants on holidays, we reduced city water consumption by 1.5%.

## ■ Future Initiatives to Conserve Energy

We regularly review our energy usage to improve energy saving efforts. HORIBA electric power consumption is heavily influenced by air conditioning units that have variable power demands due to changing weather patterns. From the current fiscal term and beyond, we will boost energy efficiency through private power generation using a co-generation system and investing in energy-saving facilities and equipment.

## ■ Reducing the Environmental Effect of Chemical Substances

In 1991 HORIBA initiated a program to reduce, and finally eliminate, the use of chloride-based organic solvents and other substances that cause ozone depletion. The mission succeeded in 1999. Since then, HORIBA has also further reductions in the number of chemical substances used in R&D and production. Moreover, we expect to reduce the use of chemical substances by 30% (FY 2000 standard) through other programs under our EMS.

Main chemical targets for reduction or elimination are selected using our Chemical Substance Management Policies. We conducted a review of operating procedures and promoted the elimination or reduction in use and inventories, while also promoting the use of other, safer substances, which culminated in an overall reduction of 7.2% in the use of hazardous chemicals.

As a result of ongoing research since 1998 into PRTR-related substances, we now only deal with a maximum measure of 0.4 tons. Despite an increase in production, we managed to reduce the use of chemicals that we used more than 10kg per year, by 39.8%, to 0.63 tons. We will continue to strive to decrease the use of chemical substances.

**PRTR (annual amount over 10kg)**

(Unit: t)

| PRTR No. | CAS No. | Chemical substance | Volume handled | Release | | | Changed | Transfer | Recycle | Consumption | Main use |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | (Annual) | Exhaust (Air) | Drain (Water) | Dump (Soil) | Neutralize etc. | Waste products | Reprocess | Shipped as product | |
| 230 | 7439-92-1 | Solder (lead), lead compound | 0.303 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | 0.108 | 0.194 | Print circuits and soldering attachments |
| 47 | 60-00-4 | Ethylene di-amine tetraacetic acid | 0.128 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.128 | Product extra |
| 63 | 1330-20-7 | Xylene (including mixtures) | 0.069 | 0.000 | 0.000 | 0.000 | 0.000 | 0.069 | 0.000 | 0.000 | Cleaning components and semiconductors |
| 253 | 302-01-27 | Hydrazine hydrate | 0.051 | 0.000 | 0.000 | 0.000 | 0.000 | 0.051 | 0.000 | 0.000 | Semiconductors |
| 113 | 123-91-1 | 1,4-Diethyleneoxide | 0.032 | 0.000 | 0.000 | 0.000 | 0.000 | 0.032 | 0.000 | 0.000 | Product extra |
| 283 | 7681-49-4 | 1,4-dioxane | 0.025 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.025 | Reagent extra |
| 24 | 22155-30-0 | Alkyl benzene sulfonate (substance in mixture) | 0.012 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.012 | 0.000 | Semiconductors |
| 304 | 1303-96-4 | Sodium tetraborate decahydrate | 0.011 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.011 | Product extra |
| | | Total | 0.629 | 0.000 | 0.000 | 0.000 | 0.000 | 0.152 | 0.119 | 0.357 | |

Note: Figures have been rounded to three decimal places

## Preventing Environmental Pollution

To prevent air pollution and ensure water quality, HORIBA has established voluntary control standards for exhausts and effluents discharged from our factories. The effluent from rinsing plants is specially treated for reuse, which helps reduce water consumption.

### Drainage Measurement and Actual Measurement

(mg/L)
*Under detection limit so omitted

| | Items to be Regulated | Kyoto City Regulations | HORIBA Standards | Maximum Value 2000 | Maximum Value 2001 | Maximum Value 2002 | Non-detectable amount |
|---|---|---|---|---|---|---|---|
| Items Concerning Home Environment | pH | 5 - 9 | 6 - 8 | 6.2 - 7.7 | 6.1 - 7.6 | 6.1 - 7.6 | / |
| | n-hexane extract | 5 | 3.5 | 1.8 | 2.1 | 2.1 | / |
| | phenol | 1 | 0.3 | * | * | * | 0.002 |
| | copper | 3 | 0.9 | 0.19 | 0.37 | 0.37 | / |
| | zinc | 5 | 1.5 | 0.232 | 0.236 | 0.236 | / |
| | Iron (soluble) | 10 | 3.0 | 0.970 | 1.110 | 1.113 | / |
| | Manganese (soluble) | 10 | 3.0 | 0.030 | * | * | 0.02 |
| | fluorine | 15 | 4.5 | 0.77 | 0.94 | 0.94 | / |
| | nickel | 2 | 0.6 | * | * | * | 0.02 |
| | boron | 1 | 0.3 | 0.200 | * | * | 0.02 |
| Items Concerning Human Health | Cadmium and its compounds | 0.1 | 0.03 | 0.001 | * | * | 0.001 |
| | cyanide | 1 | 0.3 | * | * | * | 0.1 |
| | Lead and its compounds | 0.1 | 0.07 | 0.042 | * | * | 0.005 |
| | 6-chromium | 0.5 | 0.15 | * | * | * | 0.04 |
| | Arsenic and its compounds | 0.1 | 0.03 | * | * | * | 0.005 |
| | Mercury and its compounds | 0.005 | 0.0015 | * | 0.0005 | * | / |
| | trichloro ethylene | 0.3 | 0.09 | 0.003 | 0.0009 | * | / |
| | dichloro methane | 0.2 | 0.14 | 0.016 | * | * | 0.002 |
| | Carbon tetrachloride | 0.02 | 0.014 | * | * | * | 0.0002 |
| | 1,1,1-trichloroethane | 3 | 0.9 | 0.0011 | * | * | 0.0005 |

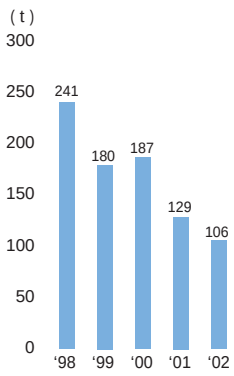
Note: Regulation figures are from Kyoto City sewage and drainage standards.

### Air Measurement and Actual Measurement

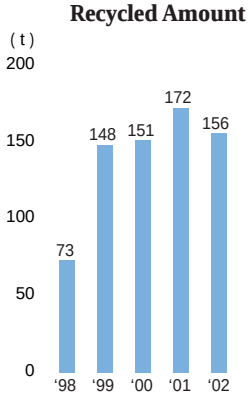
| | Items to be monitored | Unit | Kyoto City Regulation | HRIBA Standards | Maximum Value 2000 | Maximum Value 2001 | Maximum Value 2002 | Non-detectable amount |
|---|---|---|---|---|---|---|---|---|
| At Outlet | di-chloromethane | Vol ppm | 200 | 180 | — | — | — | |
| | Xylene | Vol ppm | 300 | 28 | <5 | <2 | <2 | |
| | Ammonia | Vol ppm | 100 | 28 | 7 | 1.2 | 3.8 | |
| | Fluorine compounds | mg/m3N | 5 | 3.5 | 0.7 | <0.7 | <0.7 | |
| | Hydrogen chloride | Vol ppm | 20 | 6 | 1 | <1 | <1 | |
| | Nitrogen oxides (NOx) | Vol ppm | 100 | 30 | 10 | <10 | 13 | |
| At the Boundary Line | di-chloromethane | Vol ppm | 2 | — | — | — | — | under 0.5 |
| | Xylene | Vol ppm | 1 | — | 0.3 | <0.3 | <0.3 | |
| | Ammonia | Vol ppm | 1 | — | <0.3 | 0.2 | 0.2 | |
| | Fluorine compounds | mg/m3N | 0.05 | — | 0.01 | 0.01 | 0.03 | |
| | Hydrogen chloride | Vol ppm | 0.2 | — | 0.02 | 0.05 | 0.04 | |
| | Nitrogen oxides (NOx) | Vol ppm | 1 | — | 0.022 | 0.085 | 0.069 | |

Note: Regulation figures are based on Kyoto City environmental laws.

### Waste Emissions




### Recycled Amount




## Drainage Management and Regulations

HORIBA has set voluntary control standards based on sewage water laws and Kyoto City sewage water regulations to prevent any water contamination from its experimental laboratories and factories. The pH is monitored and regularly measured at the drainage channel and the outlet. All mesurements for the period were below our control standards.

## Preventing Air Pollution

HORIBA has set voluntary control standards for the emission of harmful substances. Through regular surveillance, maintenance and control of equipment, we are working to prevent air pollution. All items for the period were below our control standards.

## Measures to Reduce Waste

In fiscal 2002, waste emissions amounted to 103 tons, down a significant 20%, mainly by recycling materials for wooden structures. We improved our recycling rate by 2.7%, to 59.7%, by separating waste paper and promoting the total reuse of cardboard boxes.

## Environmentally Friendly Production

To eliminate the waste of resources due to surplus production, especially when orders change, HORIBA has been analyzing the various causes since fiscal 2002 in an attempt to resolve the problem.

## Activities to Improve the Environment at Sales Offices

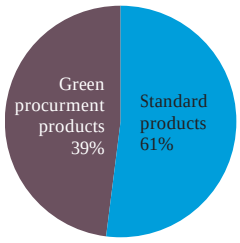
With regard to voluntary EMP activities at HORIBA's 11 sales offices (SOs) and technical plazas, we achieved OA paper reduction (8 SOs) and gasoline reduction (2 SOs). Energy-saving vending machines were also installed. Eight of our SOs achieved objectives for the year.

Measuring exhaust emission

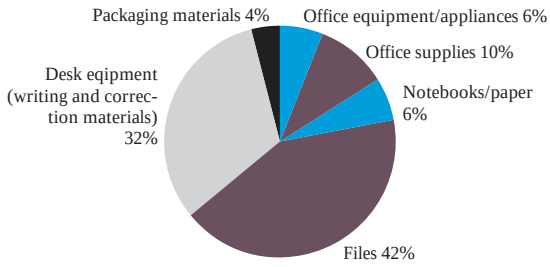
## Green Procurement Activities

We have been promoting the green procurement of office products. In fiscal 2001, we introduced a delivery system for domestic subsidiaries, acquiring only those products specified with the "green" mark. Overall purchases during fiscal 2002 amounted to ¥13.27 million (9,422 items), while we purchased 4,857 "green" items, or 52% of the total.

**Green Procurement of Office Supplies (by cost)**




**Breakdown of Green Procurment (by cost)**




Natural gas delivery

## Distribution Activities to Protect the Environment

HORIBA Group companies have been using mixed containers to reduce the number of deliveries required. This cooperative system not only saves on costs but also reduces truck exhaust emissions. By using an information network, we are able to coordinate delivery schedules between companies. As a result, we have almost halved the number of deliveries from 145 to 75, while decreasing charter service costs by 2.2%.

## Enlightenment Activities

All employees participate in creating enlightenment themes to improve environmental awareness. All levels of the organization set objectives and targets to reduce environmental load and carry out independent activities to accomplish them. In fiscal 2002, 30 departments set goals, with 19 of them achieving their goals.

## New Eco-Conscious Technologies & Products

XGT-1000WR fluorescent X-ray testing equipment

### ■ Detecting Hazardous Substances

Recognized by EU directives, WEEE and RoHS, the newly developed XGT-1000WR fluorescent X-ray testing instrument can detect hazardous elements such as cadmium and lead in electronic components, resulting in the return of some products or the incorporation of a product warning in other cases. The equipment is capable of sensing hazardous elements in an extremely small objective area (1.2 mm) with very high sensitivity (cadmium sensitivity 2 ppm). A CCD camera makes it easy to identify the measurement point. Straightforward analysis of any item is possible, from cables to television casings.

OBS-1000 on-board emissions measurement system

### ■ World's First On-Board Emissions Measurement System

HORIBA has developed the world's first analytical emissions system for on-board measurement and recording of raw exhaust gases, fuel consumption and simultaneous collection of data from the vehicle and driving environment. The new On-Board-System has far-reaching environmental and economical applications.

To celebrate 50 years in business, HORIBA initiated a campaign called "Joy & Fun: Eco-Drive EKI-DEN," on January 21, 2003. HORIBA Group volunteers drove vehicles fitted with the On-Board-System throughout Japan, the United States and Europe in a relay, taking vitally important environmental and energy-related data, which has been reported to schools and on our homepage.


Measuring exhaust gas in Chicago during the EKI-DEN relay

### ■ Diesel Gas Measuring System

The exhaust gas from diesel engines is thought to contain dangerous carcinogens. To participate in the movement to eliminate this problem, HORIBA has built a research facility to test the exhaust gas of diesel engines. In cooperation with affiliated companies, HORIBA has designed a exhaust measuring system with technology to detect extremely low levels of carcinogens in diesel emissions.

# Actively Communicating with Society through our Corporate Activities

Eco Kyoto 21 certification

**Nominated Divisions:**

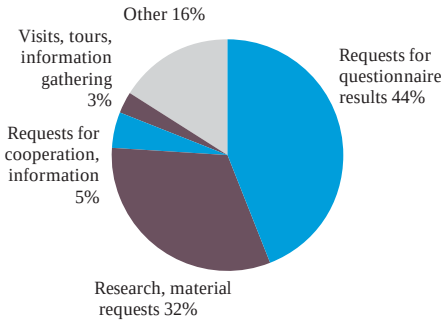
■ Prevention of global warming
(for the reduction of $CO_2$)

■ Promotion of a recycling society
(for aggressively reducing waste)

**Registered Division:**

■ Eco-style
(for promoting ISO at schools and encouraging a charge system for supermarket bags etc.)

**Environment-Related Inquiries**




## Environmental Communication

### ■ Application for Awards

| System | Sponsor | Result |
|---|---|---|
| Eco Kyoto 21 | Kyoto Prefecture | Accepted in all 3 divisions |
| 3R (Reduce, Reuse, Recycle) Promotion Merit Award | Recycling Promotion Council | Awarded Chairman's prize for 3rd consecutive year for recycling print circuits |
| Nikkei Environmental Management Survey | Nikkei Research | 2002: 96th place |

### ■ HORIBA Recognized by Eco Kyoto 21

The Kyoto Prefecture government nominated HORIBA for the first time as a model business for environmental protection as part of Eco Kyoto 21. Other Kyoto nominations of HORIBA were for the prevention of global warming, the promotion of a recycling society and eco-style.

### ■ Complaints and Accidents

HORIBA conducts voluntary control measures to ensure the prevention of problems related to water quality from factory effluent, noise and the emission of harmful substances. We installed efficient drainage facilities to neutralize acids, and employed pH meters to monitor internal waste systems. Furthermore, we formulated a maintenance manual to prevent noise pollution by using proper equipment control. We received one complaint for noise during fiscal 2002. The problem stemmed from the sudden freezing up of an air conditioning unit. In response to the complaint, we promptly stopped the equipment and solved the problem.

### ■ Environment-Related Inquiries

We received 75 inquiries, down 12% from the previous year. Requests were for documentation related to the PRTR Law and EU directives (WEEE and RoHS) increasing.

## Social Activities

### ■ Conducted Volunteer Clean-Up Activities

During this past fiscal year a total of 143 HORIBA employees participated in various rubbish collection events throughout Japan, including Tokyo (Arakawa Clean Aid) and Nagoya. In addition, 14 workers took part in the campaign to clean the Suma seashore near Kyoto.

Arakawa Clean Aid

Conducting a lesson at elementary school

### ■ Increasing Environmental Awareness in Children

With the objective to raise public interest in environmental issues, HORIBA technicians teach lessons to elementary school children. Using HORIBA strengths as a manufacturer of analyzing and measuring equipment, the lessons consist of environmental-related talks and demonstrations. As one example, children were shown equipment that measures car exhaust gas emissions to help prevent global warming, and a pH meter to measure acid rain.

### ■ A Workshop on Water Quality sponsored at the World Water Forum

HORIBA co-sponsored a workshop on water quality monitoring of lakes at the 3rd World Water Forum with ILEC (International Lake Environment Committee Foundation). As part of the presentation, we proposed the establishment of global water quality monitoring standards.

HORIBA workshop at the World Water Forum

## Worker Health & Safety

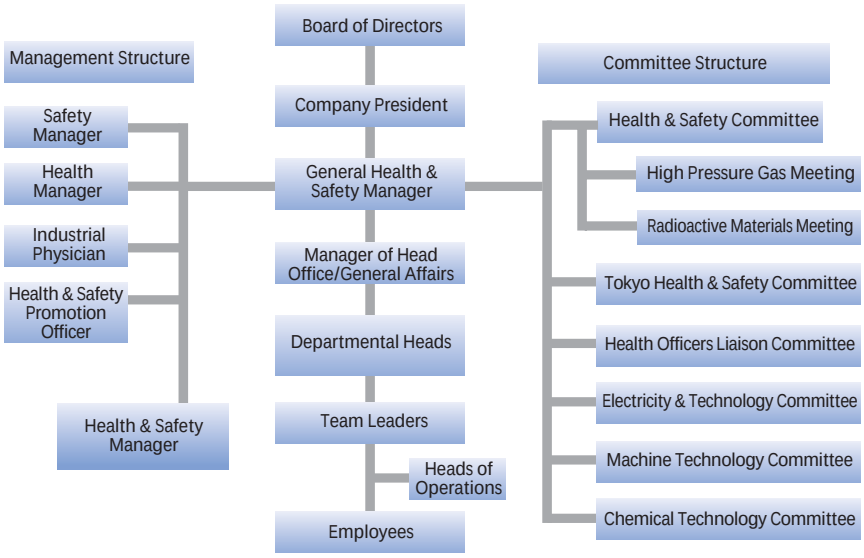
### ■ Health & Safety

Based on the principle that every employee is important, HORIBA is resolute in its efforts to ensure a safe and comfortable working environment. Initiatives aimed at safety include the establishment of a health and safety committee to promote the elimination of accidents and healthiness in body and mind.

Fire extinguishing drill

Top management inspection

**Health & Safety Management Structure**




**Safety Statistics**


### ■ Aiming for "Zero-Accidents"

HORIBA conducts safety-oriented training for managers and new employees to promote safety in operations and eliminate accidents altogether from the workplace. Top management, health officers and industrial physicians also conduct regular inspections of working conditions. We have a goal of 1,600 consecutive days without accidents based on our Occupational Health and Safety Standard (OHSAS).

### ■ Towards a Comfortable Work Environment

To ensure safe and comfortable working conditions at sites that handle designated harmful substances, we conduct regular, independent evaluations of facilities.

### ■ Encouraging a Healthy Lifestyle

We actively encourage employees to attend lectures on health and obtain medical checkups, while also using medical consultation services. Moreover, we created a health follow-up system with re-examinations, in-depth checks and ongoing monitoring. We try to prevent health problems by uncovering them as early a possible.

## Boosting Employees' Competencies

### ■ Fostering an Adventurous Spirit to be Top in the World

HORIBA constantly aims to be the top global instrument companyby working to provide superior products based on our state-of-the-art technology. To raise customer satisfaction, we seek to increase product and service quality to the highest possible degree. To achieve this, all employees are encouraged to pursue adventurous and entrepreneurial behavior. We strive to implement creative ideas and reforms everyday. We are currently aiming to achieve ¥100 billion in Group sales through aggressive investment in R&D and expansion of our global network. Accordingly, we are planning to create a new human resources system to develop the workers of today into the leaders of tomorrow.

### ■ Linking Management and Individual Objectives

What does each employee have to do to help achieve Company and divisional goals? To clarify required actions, we introduced a target formulation system in 2000. Each employee has set goals based on management objectives and is working towards speedy achievement. We have also boosted competitiveness by creating a group of experts to pursue challenges aimed at increasing personal value.

Employee set objectives and results are released on the company intranet so that each department knows what initiatives other groups have undertaken. This aids in boosting collective power and maximizing synergies.

### ■ Supporting Start-Up Businesses

With the objective to develop an entrepreneurial spirit in our employees, we introduced a venture business support program in 2000 to offer financial and human resource assistance to start-up businesses. This has led to the birth of a number of new companies that can respond to diversified needs in new market areas.

### ■ Developing Global Personnel

HORIBA products have been delivered to worldwide markets for many years. Therefore we encourage our employees to adopt a more worldwide perspective in their outlook. We introduced an overseas "trainee program" in 1977, sending a number of employees abroad for specialized education. We also established a foreign-based operations training program in 2003 to expand our globally cultured personnel.

### ■ Employing the Physically Challenged

HORIBA does not discriminate in any way against people with disabilities, opening our doors to all those who are willing. To accommodate the physically challenged, we have introduced special ramps, elevators and toilet facilities. The number of these employees has risen steadily since 1995, when the Company modified the employment criteria. In 2001, we were awarded a special commendation from the mayor of Kyoto for our efforts for our physically challenged employees.

## History of Environmental Activities

| | Measures Taken by Horiba | | | | | Relevant World Events |
|---|---|---|---|---|---|---|
| | Year | Environmental Preservation/Improvement Activities | Year | Technical development/External Activities | Year | |
| 1970s | | | 1950 | - Developed a glass electrode pH meter and entered the analytical instruments business. | 1958 | - Industrial Wastewater Control law |
| | | | | | 1967 | - Basic Anti-Pollution Law |
| | | | 1954 | - Developed a non-dispersive Infrared Gas Analyzer. | 1968 | - Clean Air Law |
| | 1968 | - Launched a series of measuring instruments for water treatment and water quality monitoring systems. | | | | |
| | | - Established an environmental control section within the company. | 1970 | - Launched a series of measuring instruments for water treatment and water quality monitoring systems. Started marketing air quality and water quality for the monitoring systems. | 1970 | - Clean Water Law<br>- Revised Clean Air Act (U.S.A.) |
| | 1971 | - Nine HORIBA personnel passed the national examination for pollution control supervisor<br>- Established a pollution control system within the company. | | | 1971 | - Environment Agency<br>- Qualification of Pollution Control supervisor |
| | 1971.7 | - Registered the company's wastewater treatment facilities in line with legislative requirements for water pollution control. | | | 1973 | - Regulation to Prevent Gross Water Pollution |
| | 1978.3 | Connected public sewage by building sewage systems | 1979 | - Became a charter member of the Japan Environmental Technology Association. | | |
| 1980s | 1982.8 | Established a committee for environmental man age ment within the company. | 1988 | - Donated the Sensorize Tower, a display on air pollution monitoring, to Kyoto City | 1988 | - Montreal Protocol on Substances that Deplete the Ozone Layer |
| 1990s | 1990.2 | Reduced the use or switched to substitutes for chlo rine-based organic solvents and the specified CFCs | 1991 | - Presented vehicle for measuring air pollution to Chinese Academy of Sciences<br>- Opened "HONEST" website on acid rain | 1991 | - The Environment Charter: The Federation of Economic Organization |
| | | | 1992 | - Donated acid rain measuring equipment to elementary school in Kyoto through accumulated bell marks<br>- Participated in the Eco Brazil Exhibition held concurrently with the UNCED.<br>- Independently developed and commenced operations of the Returnable Display Booth | 1992 | - United Nations Conference on Environment and Development |
| | 1993.4 | - Stopped the use of 1,1,1-trichloroethane and switched to dichloromethane<br>- Eliminated use of CFC-113 (shifted to HCFC-225b) | 1993 | - Introduced an air background observation system to the Minami Torishima Observatory, Japan Meteorological agency | 1993 | - Basic Environment Law |
| | 1994 | - Stipulated the company's contribution to environ mental management in the corporate philosophy. | 1995 | - Published message regarding environmental issues in Kyoto magazine, "Club Fame" in conjunction with Qinghua University | 1994 | - United Nations Framework Convention on Climate Change |
| | 1995.9 | - Commenced preparation for EMS (BS7750)<br>- Started the training of environmental auditors within the company | | | 1995 | - Packaging Materials Recycling Law |
| | 1996.1 | - Launched the project to qualify for ISO14001 certification.<br>- Stipulated the company's environmental philosophy and the environmental policy. | 1996 | - Developed air pollution monitoring equipment for HAPs | 1996 | - Appeal for Environmental Preservation by the Federation of Economic Organization |
| | 1996.12 | - Started activities to discontinue the use of substitutes for CFCs and dichloromethane . | 1997 | - Organized an internal meeting on the environ ment in corporation with the foreign participants of COP3 held in Kyoto.<br>- Participated in the ECO JAPAN exhibition held during COP3. | 1997 | - Kyoto Protocol to the United Nations Framework Convention on Climate Change at COP3 |
| | 1997.6 | - The HORIBA environmental management system was certified as meeting ISO-14001 requirements | | | | |
| | 1998.3 | - Stopped all use of HCF225. | | | 1998 | - Revised Energy Saving Law |
| | 1999.4 | - HORIBA was designated a 2nd model factory for saving energy.<br>- Started a preparatory work on rules for PRTR. | 1998 | - Developed water quality monitor that can measure 13 items at once<br>- Dispatched action and guidance personnel through a JICA project to support water quality management in Paraguay | 1999 | - Promotion of Control of Chemicals Law |
| 2000s | 2000.1 | - Published the first edition of Gaiareport . | 2000 | - HORIBA HIT-700 digital driving recorder won an award in the 2nd Eco-drive Contest (March). | 2000.5 | - Guidelines on Environmental Account |
| | 2000.2 | - Stopped all use of dichloromethane, a chlorine-based organic solvent | | | 2000.6 | - Basic Formation of Recycling Society Law |
| | 2000.3 | - Independently developed total environmental monitoring system HORTEM-21 | | | 2000.12 | - International Acid Rain Conference at Tsukuba |
| | 2000.4 | - Implemented the recycling of packaging materials in line with legislative requirements | | | | |
| | 2001.3 | - Established the Environmental Project Stage 2 | | | | |
| | 2001.4 | - Began project to expand environmental management activities based on ISO 14001 to all the local sales offices | 2001 | - Established Bio Applied System, Ltd. to analyze endocrine disruptors. | 2001.1 | - Enforcement of Pollutant Release and transfer Law |
| | 2001.1 | - English version of environmental report first issued | | - Sponsored workshops at the 9th International Conference on the Conservation and Management of Lakes | 2001.4 | - Enforcement of Home Appliances and Food Recycling Law |
| | 2001.1 | - Obtained ISO-14001 at overseas subsidiary HAD | | | | |
| | 2002.2 | - Established self-approved environmental mark | | | 2001.4 | - Enforcement of Green Purchasing Law |
| | 2002.10 | - Awarded the Chairman's Prize from the 3R (Reduce, Reuse and Recycle) Promotion Committee | 2002 | - Completed Miyako Ecology Center and introduced permanent displays | 2001.12 | - Implemented fifth series of water quality regulation |
| | | - Participated in rubbish collection in Kyoto, Tokyo and Nagoya | | | 2001.12 | - Announced method to recover and breakdown CFCs |
| | | | | | 2002.4 | - Announced policy to reduce NOx/PM in cars |
| | 2003.3 | - Initiated integrated management system for quality, environment and safety | | | 2002.5 | - Framework Convention on Climate Change approved by Kyoto Protocol |
| | | - Introduced lead-free print circuits in 14 products | | | | |
| | | | 2003.1 | - Started round the world relay with car exhaust measuring vehicle | 2003.2 | - Announced EU directives (WEEE and RoHS) |
| | | | 2003.3 | - Sponsored and held workshops for the 3rd World Water Forum | | - Implemented law on soil pollution |

HORIBA

Explore the future

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**Front cover:**

Gaia was the Greek goddess known as Mother Earth who brought about purification and prosperity. HORIBA, a maker of analytical and measuring equipment, provides products that keep a watchful "eye" on the earth, contributing to the preservation of the environment. Using this premise as the mainstay of its operations, HORIBA expresses its website as "GAIAPRESS" and its environmental report as "Gaiareport."

This report was printed on recycled paper.

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