

TERUMO ENVIRONMENTAL REPORT 2001



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**Achievements  
in FY2000**

**Voluntary targets set for carbon dioxide emissions**

**Terumo Environmental Report 2000 published**

**Internal environmental auditing initiated**

**Energy efficiency awards received by our Fujinomiya Factory, Ashitaka Factory, and Shonan Center**

**Moves initiated to replace equipment containing PCBs and to consolidate storage sites**

## **A Message from the President**

### **A commitment to medical safety in harmony with the environment**

Since the founding of our company, Terumo corporate philosophy has been “Contributing to society through healthcare.” The practice of medicine is a valued service, helping people to maintain or restore their health. And as a company working in the healthcare sector, we have a vital interest in protecting the environment, the essential basis for living healthy lives.

Providing safe and reliable medical equipment is our primary mission. To fulfill this mission, safety and the prevention of infection have always been paramount in the development of the wide range of medical instruments and supplies that we provide to hospitals and homes.

With the limitations of past technology, we have often found that the pursuit of medical safety runs counter to concern for environmental issues. Despite the difficulties, we have endeavored to develop, produce, and offer our customers environmentally sound products in environmentally acceptable ways. We will continue this uncompromising effort into the future.

It is not an exaggeration to say that only those companies that seriously address environmental issues will survive and prosper. In FY1999 we established our Environmental Policy, a declaration of our commitment to medical safety in harmony with the environment. We also strengthened the structural framework for environmental management across our entire organization. This year, in FY2000, we have achieved further advances in caring for the environment.

This report covers our initiatives and outcomes in regard to environmental protection, a management issue of real concern, during the year from April 2000 to March 2001. It is also a declaration of intent, expressing our ongoing commitment to meeting future objectives and challenges.

I hope that this report will provide an insight into the stance and practical steps that Terumo is taking in regard to environmental concerns.

October 2001



President and Chief Executive Officer

A handwritten signature in black ink, which appears to read "T. Wachi". The signature is written in a cursive style with a horizontal line underneath the name.

Takashi Wachi

### Corporate Philosophy

#### Contributing to society through healthcare

**We contribute to society by providing valued products and services in the healthcare market and by responding to the needs of healthcare providers and the people they serve.**

##### Open management

We maintain a fundamental policy of open management, work to secure and return to our benefactors a suitable profit, and strive to develop our business on a global basis as befits a leading company in the industry.

##### Enhanced value

We emphasize the importance of scientific thinking, creativity, and time appropriation, and respond in depth to customer needs by creating valued products and services.

##### Safety and reliability

We pride ourselves on our commitment to the development of technologies and quality assurance systems that ensure safe, reliable products.

##### Respect for our associates

We emphasize respect for the individual, promote intercultural understanding, and encourage openness in the workplace in accordance with our slogan "Associate Spirit" as we prepare to meet the challenges of the future.

##### Corporate citizenship

We conduct our business activities in a fair and equitable manner and act responsibly toward the environment as we fulfill our responsibilities as good corporate citizens.

## **Terumo's Environmental Policy** (adopted December 1999)

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Guided by our corporate philosophy of “contributing to society through healthcare,” the Terumo group, as a leading supplier of medical equipment, has formulated and implemented wide-ranging environmental protection programs in order to remain a trustworthy, conscientious member of the global business community. Not only do our policies help protect the Earth, they also help us to provide safe and reliable medical equipment to society.

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**Terumo has resolved to self-monitor all its activities in order to maintain its standing as an active supporter of environmental protection. Terumo is committed to:**

- controlling the impact our activities have on the environment
  - developing environmentally conscious products
  - taking steps to protect the environment from pollution
  - making effective use of energy and resources
  - reducing waste
- 

**Terumo will follow international environmental protection laws, regulations and agreements.**

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**To protect and audit its environmental protection activities, Terumo has established an environmental management system.**

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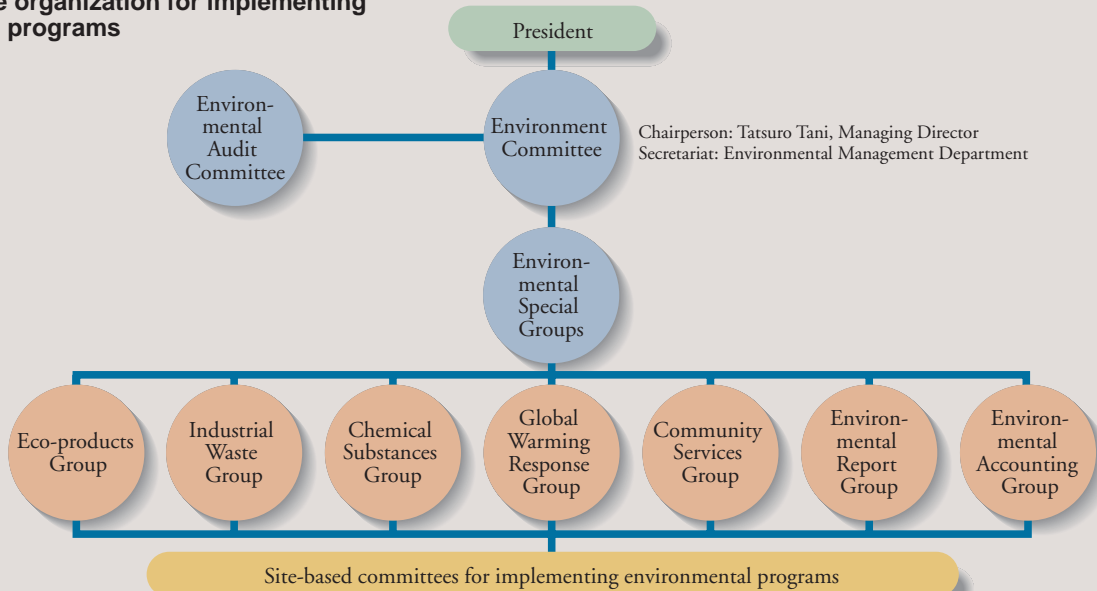
**As a member of the global community, Terumo will support environmental protection activities.**

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**To increase awareness of environmental issues within the company, Terumo will conduct in-house activities and educational seminars for employees.**

# Environmental management system

## Company-wide organization for implementing environmental programs



### Environment Committee

The Environment Committee is responsible for setting the voluntary objectives of the Terumo Group in regard to environmental protection, monitoring progress, and generally overseeing environmental programs across the whole company. Formed in January 2000, the committee consists of representatives from all of Terumo's domestic business groups. At present, the committee's efforts are focused on promoting environmental awareness on our home ground, but future activities will extend to the entire Terumo Group.

### Environmental Special Groups

The environmental special groups are charged with promoting and carrying out practical improvements in regard to specific issues. Progress to date has been achieved through an energy conservation subcommittee, waste management project, and PVC substitutes project.

In January 2000, Terumo revamped and restructured its existing projects and programs into the working groups listed below. The activities of these working groups are supervised by the Environmental Management Department, which periodically reports to the Environment Committee for evaluation and review.

#### Eco-products Group

This group is tasked with assessing the total impact of Terumo products on the environment. It identifies important factors in reducing the environmental load, and analyzes and compiles data from the perspectives of product development, manufacture, and management.

#### Industrial Waste Group

This group is focused on meeting the targets for reducing waste volumes for final disposal. It encourages cooperation among plants and facilities in tracking progress and solving problems, and it maintains information flows regarding the development of waste recycling routes and other matters.

#### Chemical Substances Group

This group discusses matters such as meeting waste reduction targets by increasing the quantities of chemical substances that are reused or rendered stable and harmless, and implementing a database and calculation system to comply with the Pollutant Release and Transfer Register (PRTR).

#### Global Warming Response Group

This group promotes the efficient use of energy throughout the company. It presents case studies of site initiatives, encourages exchange of information on energy conservation and other measures, and formulates energy-saving objectives.

#### Community Services Group

This group supports activities that contribute to the local environment, recommends candidates for environmental awards, and engages in other work that benefits the community.

#### Environmental Report Group

This group formulates the editorial policy of environmental reports, edits and publishes the reports, and coordinates and reviews received comments.

#### Environmental Accounting Group

This group balances environmental costs and benefits, considers ways of systematizing the calculations, and discusses how to give weight to environmental accounting as a basis for decision making in business management.

### Environmental Audit Committee

Terumo factories and the Research and Development Center are implementing environmental management systems that comply with the ISO 14000 series of international environmental management standards. Environmental audits serve an important function in ensuring the effective operation of environmental management systems and in improving environmental performance. The Environmental Audit Committee oversees environmental protection activities across the entire company and at each site.

## Internal environmental auditing

In FY1999 Terumo set up a company-wide environmental management system as a framework for continuously improving the environmental impact of our activities. Internal environmental auditing plays a crucial role within this system and in improving our environmental performance. Consequently, in FY2000 we formed an Environmental Audit Committee, separate from the existing Environment Committee, and began a program of internal environmental auditing.

The ultimate aim is a two-tier auditing system, with each business site carrying out its own internal environmental audits on a voluntary basis, with the Environmental Audit Committee in charge of environmental auditing across the entire company.

Based on this organizational framework, we will work to ensure that our environmental practices are fully comprehensive.

### Training of internal environmental auditors

We are training internal environmental auditors at Terumo through means such as attendance at courses run by outside organizations. As of FY2000, eleven internal environmental auditors have been registered with the Environmental Audit Committee.

### Auditing by the Environmental Audit Committee

Each Terumo site is inspected by a team of registered and neutral auditors, none of whom has any direct association with the site to be audited. They examine the conformity and legal compliance of environmental management systems, and the effectiveness and benefits of the practices carried out. In addition to providing an objective appraisal of site activities, the audits contribute toward the sharing of expertise among diverse business sites.

In FY2000, audits were conducted in regard to compliance with various environmental laws, including the Waste Disposal and Public Cleansing Law, Air Pollution Control Law, Water Pollution Control Law, Noise Regulation Law, Vibration Regulation Law, and the Law Concerning the Rational Use of Energy.



Kofu Factory



Fujinomiya Factory

# Environmental accounting

Environmental investment and related expenses, and resultant benefits, are assessed with a view to aiding management decision making and raising environmental awareness among employees.

Scope of assessment: Major operation bases in Japan

Applicable period: April 1, 2000 to March 31, 2001

(Units: Yen millions)

Costs of environmental protection				Economic benefits	
Category		Principal initiatives	Investment	Expenditure	
Costs incurred in minimizing the environmental load of production and service activities within the business area(On-site costs)			808	1,136	829
Break-down	(1) Pollution prevention	Wastewater treatment and solvent recovery plants	( 43 )	( 320 )	( 22 )
	(2) Protection of the global environment	Energy-saving facilities	( 647 )	( 361 )	( 328 )
	(3) Resource recycling	Waste treatment and recycling expenses	( 118 )	( 455 )	( 479 )
Costs incurred in minimizing the upstream and downstream environmental load arising from production and service activities (Upstream and downstream costs)		Eco-product manufacturing facilities	0	233	0
Costs of implementing environmental management programs (Management program costs)		Environmental management-related expenditure	0	45	0
Costs of implementing environmental R&D programs (R&D costs)		R&D expenditure for environmental load reduction of Terumo products	0	15	0
Costs of implementing community environmental services (Community services costs)		Maintaining and establishing urban green belts	1	119	0
Costs of environmental damage (Environmental damage costs)			0	0	0
Total			809	1,548	829

Investment: Amounts committed to anti-pollution and energy-saving equipment, local greening programs, etc. during FY2000

Expenditure: Depreciation expenses and operation and maintenance expenses related to anti-pollution and energy-saving equipment, eco-product development expenses, waste disposal expenses, recycling expenses, green belt maintenance expenses, environmental education expenses, etc.  
(Costs for environmental protection are differentially totaled (including prorated allocations) for both investments and expenditures.)

Economic benefits: Reduced costs from lower energy consumption, reduced raw material expenses, profit from sale of recycled marketable goods, etc.  
(Figures based on estimated contribution to sales (expected benefits) are not included.)

## Benefits of environmental protection (actual FY2000 results)

Category	Environmental load	Percentage change year-on-year	
Waste volume for final disposal (all plants)	1,039t	-44.5%	
Energy consumption (crude oil equivalent) (per net product sales; relative to FY1990)	66,939kl ( 90.2% )	-4.0%	
Chemical substances (volume handled)	Dichloromethane	294t	-58.0%
	Toluene	18t	-21.3%
	Tetrahydrofuran	17t	30.3%
Water consumption	3,937,000m <sup>3</sup>	1.3%	



# Legal compliance

## Response to new and amended legislation

### (1) Amended Waste Disposal Law (effective April 2001)

The necessary measures to comply with the amended law (manifest management, review of operators and contracts) were put in place during our own internal environmental audits.

### (2) Law for Promotion of Effective Utilization of Resources (effective April 2001)

All Terumo business sites have begun labeling designated products to identify the type of container or packaging. We have introduced internal procedures to comply with mandatory recycling labeling of secondary batteries and other legal requirements from April 2001.

### (3) Law for Promoting the Management of Chemical Substances (effective April 2001)

Internal procedures have been set up to keep track of the discharge quantities and transfer quantities of chemicals designated under this law, and of chemicals subject to voluntary controls.

## Response to the Packaging Recycling Law

The Packaging Recycling Law moved to full implementation in April 2000. To comply with requirements under this law, Terumo has contracted the Japan Containers and Packaging Recycling Association to recycle product packaging discarded by households.

## Environmental complaints and hazards

In FY2000, an incident occurred in which waste from our company was dumped illegally. We have properly contracted out disposal of company waste in accordance with the Waste Disposal Law, and it was found that the incident contravened the terms of our contract with the operator. The disposal site inspections that the contractor is required to carry out have been tightened up to ensure that Terumo will never again be implicated in such an incident.

Terumo received no environment-related administrative advice or fines in FY2000.



Checking an intermediate treatment site



Checking a final disposal site

## Summary of environmental activities in FY2000

The following summarizes the practical efforts undertaken by Terumo to fulfill the voluntary objectives established in our Environmental Policy.

Policy	Primary focus
<ul style="list-style-type: none"> <li>• Terumo has resolved to self-monitor all its activities in order to maintain its standing as an active supporter of environmental protection.</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental impact assessment of our business activities</li> </ul>
	<ul style="list-style-type: none"> <li>• Eco-product development</li> </ul>
	<ul style="list-style-type: none"> <li>• Pollution prevention</li> </ul>
	<ul style="list-style-type: none"> <li>• Efficient energy and resource utilization</li> </ul>
	<ul style="list-style-type: none"> <li>• Waste reduction</li> </ul>
<ul style="list-style-type: none"> <li>• Terumo will follow international environmental protection laws, regulations and agreements.</li> </ul>	<ul style="list-style-type: none"> <li>• Respect for the spirit of the Kyoto Protocol</li> <li>• Response to amended Japanese laws</li> </ul>
<ul style="list-style-type: none"> <li>• To protect and audit its environmental protection activities, Terumo has established an environmental management system.</li> </ul>	<ul style="list-style-type: none"> <li>• Establishment of environmental management systems</li> </ul>
<ul style="list-style-type: none"> <li>• As a member of the global community, Terumo will support environmental protection activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Encouragement of volunteer-based activities</li> </ul>
<ul style="list-style-type: none"> <li>• To increase awareness of environmental issues within the company, Terumo will conduct in-house activities and educational seminars for employees.</li> </ul>	<ul style="list-style-type: none"> <li>• Efforts in environmental communication</li> </ul>

Voluntary objectives	Achievements in FY2000	Page
<ul style="list-style-type: none"> <li>•By FY2001, complete a quantitative assessment of the environmental impacts of development, production, and sales activities.</li> </ul>	<ul style="list-style-type: none"> <li>•Database established for recording the quantities of materials used in containers and packaging.</li> </ul>	P 7
<ul style="list-style-type: none"> <li>•Reduce usage of natural rubber and PVC, materials that carry a heavy environmental load.</li> <li>•Reduce garbage volumes by using simpler forms of packaging.</li> <li>•Promote R&amp;D to design products that can be easily handled and sorted for recycling.</li> </ul>	<ul style="list-style-type: none"> <li>•PVC completely eliminated from packaging materials.</li> <li>•Labeling introduced to identify component materials of medical electronic equipment.</li> <li>•Substance labeling introduced in accordance with the Packaging Recycling Law.</li> </ul>	P 10 P 11
<ul style="list-style-type: none"> <li>•Reduce FY2001 dichloromethane emissions by at least 60% from FY1996 levels.</li> <li>•Reduce tetrahydrofuran (THF) emissions to no more than 10 tons at all sites in FY2001.</li> <li>•Completely phase out diesel-fueled company vehicles in FY2000.</li> </ul>	<ul style="list-style-type: none"> <li>•FY2000 dichloromethane emissions reduced by 59% from FY1996 levels.</li> <li>•THF emissions at all sites reduced to 10 tons or less.</li> <li>•Diesel-fueled company vehicles completely phased out.</li> <li>•Equipment containing PCBs consolidated in two storage locations.</li> </ul>	P 16 P 17
<ul style="list-style-type: none"> <li>•Reduce FY2000 unit energy consumption at Terumo business sites in Japan (excluding sales centers) by 6% relative to FY1990 energy requirements.</li> </ul>	<ul style="list-style-type: none"> <li>•Unit energy consumption at business sites (excluding sales centers) reduced by 10% from FY1990 levels.</li> </ul>	P 15
<ul style="list-style-type: none"> <li>•Reduce the amount of waste for final disposal generated at production plants in Japan by 70% in FY2005 relative to FY1996 levels.</li> </ul>	<ul style="list-style-type: none"> <li>•Amount of waste for final disposal reduced by 60% from FY1996 levels.</li> </ul>	P 14
<ul style="list-style-type: none"> <li>•Set voluntary reduction targets for carbon dioxide emissions in FY2000.</li> </ul>	<ul style="list-style-type: none"> <li>•15% reduction from 1990 levels of carbon dioxide emissions per unit energy consumption targeted for 2010.</li> </ul>	P 13
<ul style="list-style-type: none"> <li>•By FY2001, ensure that the environmental management systems at Terumo factories and research centers substantially conform to international standards.</li> </ul>	<ul style="list-style-type: none"> <li>•Internal environmental auditing commenced.</li> </ul>	P 5
<ul style="list-style-type: none"> <li>•Extend volunteer programs to other business sites.</li> </ul>	<ul style="list-style-type: none"> <li>•Volunteer activities extended to five business sites.</li> </ul>	P 18
<ul style="list-style-type: none"> <li>•Publish an environmental report.</li> <li>•Prepare a monthly environmental newsletter.</li> </ul>	<ul style="list-style-type: none"> <li>•Terumo Environmental Report 2000 published.</li> </ul>	P 19

Terumo has always been mindful of environmental concerns in the products we provide. Some of our eco-products are described below.

## Safety and eco-design considerations

Because the medical equipment and supplies that we manufacture are potentially hazardous to human health, safety and the prevention of medical misadventure have always been paramount in the development of Terumo products. An equally important concern today is to minimize environmental impact when medical products reach the end of their life cycle and become waste. In continuing to develop new products, we will make every effort to observe the following guidelines:

- (1) Do not use noxious elements (mercury, etc.).
- (2) Do not use halogenated compounds such as PVC.
- (3) Do not use the plasticizer di-(2-ethylhexyl) phthalate (DEHP).
- (4) Do not combine heterogeneous materials (plastics and metals, for example) in ways that make the materials difficult to separate.
- (5) Reduce waste volumes.

## Eliminating PVC

### (1) Characteristics of PVC medical supplies

PVC is generally formed by mixing PVC resin and the plasticizer DEHP with other additives. Inexpensive, easily molded, and readily modified to a wide range of different properties through alteration of its chemical composition, PVC offers excellent characteristics not found in other materials. These are important benefits in manufacturing medical supplies where safety and peace of mind are paramount.

### (2) Environmental effects and new issues concerning PVC

The disadvantage of PVC is that it produces higher concentrations of dioxins than polypropylene and other materials when incinerated in an inappropriate manner. DEHP, previously thought to have relatively low toxicity, has also come into question recently for suspected reproductive toxicity.

### (3) Terumo's stance on PVC

We are replacing the PVC used in our products and packaging with other materials wherever possible. Emergency medical supplies and products where use of non-PVC substitutes is technically feasible are being given priority as we develop substitute materials, including replacement of the plasticizer DEHP.

### (4) Progress in eliminating PVC

#### Non-PVC infusion sets

Terumo's drive toward eliminating PVC began in 1981 when we switched from PVC to ethylene-vinyl acetate copolymer (EVA) for the manufacture of infusion bags. In 1991, we began selling infusion sets made of polybutadiene.



Polybutadiene-based infusion set

PVC-free product mark displayed on packaging



#### Non-PVC containers and packaging

In 1998, Terumo began an in-house project aimed at a complete phase-out of PVC materials from all containers and packaging by FY1999. Today, we have eliminated PVC from all packaging except for some blood bag containers that are still undergoing stability tests.

Japan's first non-PVC peritoneal dialysis (CAPD) bags  
Peritoneal dialysis machines enable patients to receive dialysis therapy at home. In 1999, Terumo became the first company in Japan to switch from PVC to polypropylene in the manufacture of continuous ambulatory peritoneal dialysis (CAPD) bags. As well as introducing a different material, we made the film thinner and eliminated the outer packaging over the drainage bag, reducing the weight of the discarded product by 40%.



Non-PVC CAPD bag

### Recycling labeling of containers and packaging

In addition to the steel cans, aluminum cans, and PET bottles already covered under Japanese law, it is now mandatory to label paper and plastic containers and packaging for selective collection. At Terumo, we have introduced recycling labeling of products used in the home.



Paper and plastic recycling symbols



Recycling label on a Terumo product

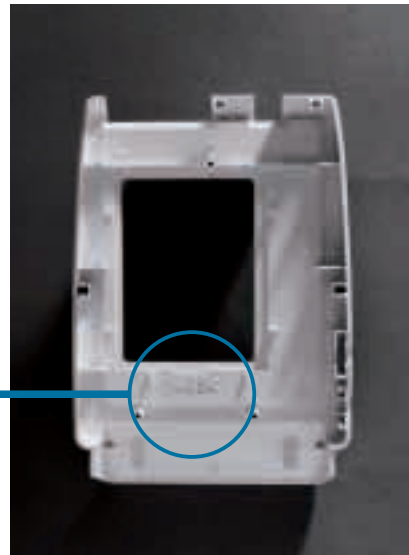


### Labeling of plastic components of medical electronic equipment

We have started labeling the plastic components of medical electronic equipment for easy identification of the different forms of plastic at recycling. The labels identify polypropylene (PP) and acrylonitrile butadiene styrene (ABS), for example, and apply to plastic components weighing 20g or more.



Plastic ID label



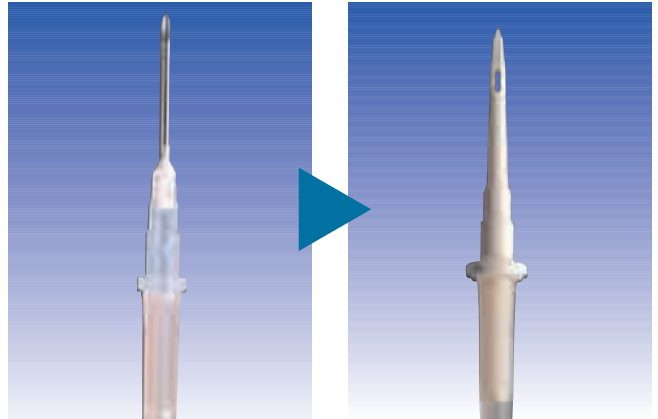
# Eco-products

## Easier waste disposal

### Infusion sets

#### Phase-out of metallic spikes

We are currently replacing metallic spikes, used to connect the infusion line to the container of fluid for intravenous therapy, with plastic spikes. This innovation will facilitate hospital waste disposal, permitting the spikes to be left inserted in the infusion bag and disposed of as general industrial waste.



Plastic spikes for infusion sets

### Intravenous fluid kits

An intravenous fluid kit consists of a double-ended needle connected to a container of saline or glucose solution for diluting the drugs to be administered intravenously. The integrated design means the plastic needle is kept out of sight, so the used product does not need to be handled as a discarded sharp and recycling is feasible.



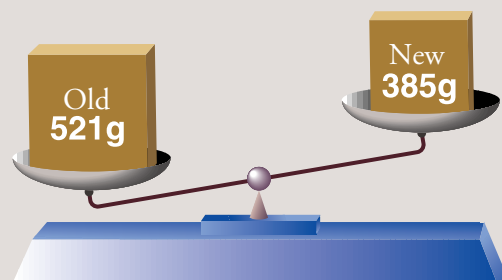
Intravenous fluid kits

## Reducing medical waste

### Disposable syringes

Of all the products that we manufacture, disposable syringes form the major proportion in terms of the total weight of production. In 1980, we switched from rubber to a thermoplastic elastomer for making the syringe gaskets, eliminating the emission of sulfur oxides (SOx) at incineration. Since 1998, we have been making lighter, more compact syringes to reduce the amount of waste. We have achieved reductions of approximately 25% by syringe volume and 15% to 25% by weight.

### Weight comparison of 5ml syringes (100 units)



Old type (example: SS-10ES)

Less bulky disposable syringes



New type (example: SS-10ES2)

# Preventing global warming

In FY2000, we established carbon dioxide emission targets to help prevent global warming.

## Target for reducing carbon dioxide emissions

By 2010, reduce carbon dioxide emissions per unit basis by 15% relative to FY1990 levels.

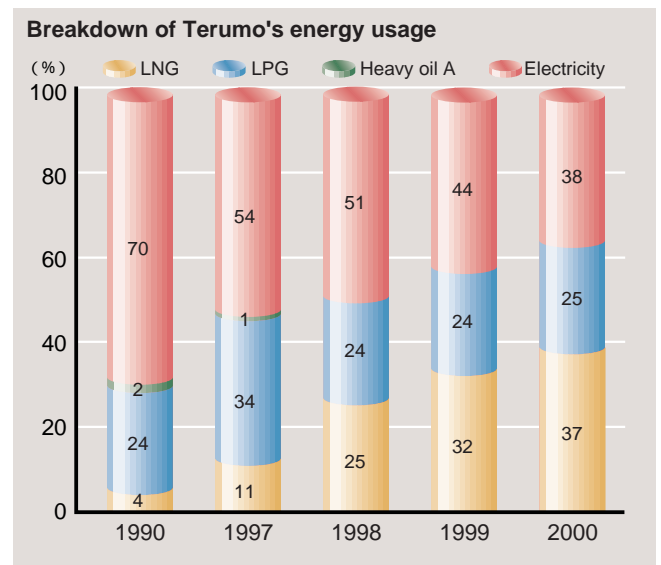
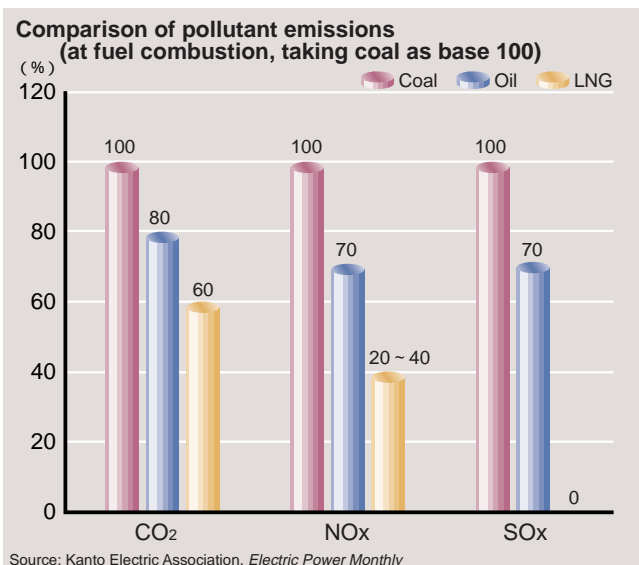
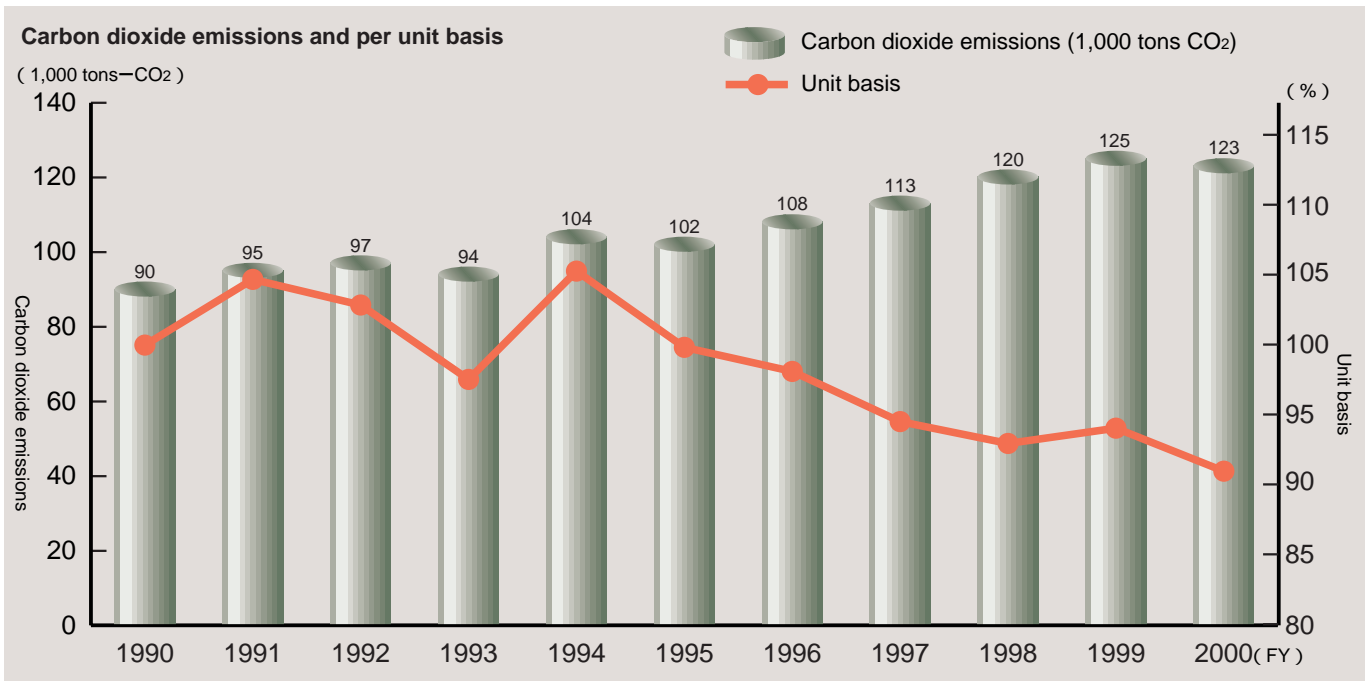
## Switching to clean energy (LNG)

Liquefied petroleum gas (LPG) generates less carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and sulfur oxides (SO<sub>x</sub>) than heavy oil. In 1970, Terumo first began using LPG to fuel the glass fusion furnaces used for making clinical glass thermometers.

Today, nearly a quarter of a century later, we are in the process of replacing LPG with liquefied natural gas (LNG) which generates even less CO<sub>2</sub>. Since FY1998, we have

phased out heavy oil A entirely. As a result, the proportion of LNG to other forms of energy used in product manufacture has risen to 37%, far exceeding the Japanese average of 6.5% as a source of final energy consumption. Carbon dioxide emissions have been reduced to 91% of FY1990 levels on a per unit basis, and absolute volumes are also trending downward.

\* Source: 2001 Handbook of Energy and Economic Statistics in Japan, Energy Data and Modeling Center of the Institute of Energy Economics, Japan



# Waste reduction

Practical measures are underway to reduce and recycle the various types of waste that are generated through manufacturing processes and business activities.

We are also actively engaged in the development of recycling technology.

## Target for reducing waste for final disposal

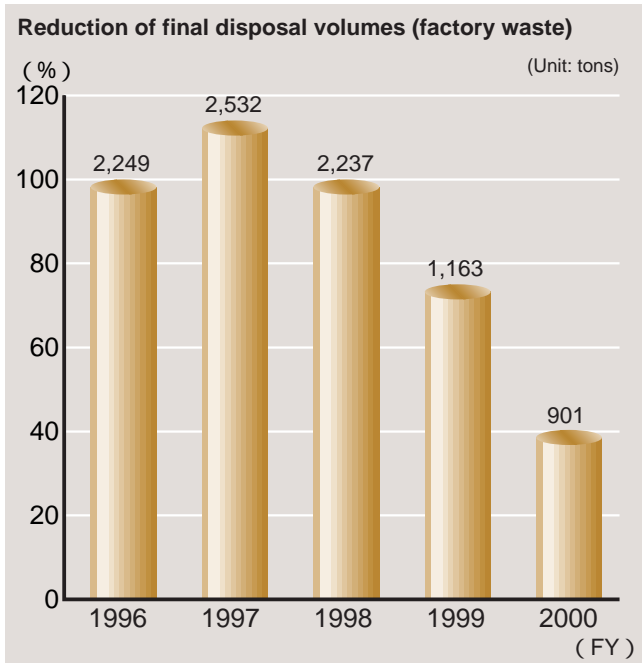
Reduce the volume of factory waste for final disposal by 70% in FY2005 relative to FY1996 levels.

Through a variety of recycling initiatives, we succeeded in increasing the ratio of resource reuse\* at Terumo factories to 72% in FY2000, compared with 35% in FY1996. Our recycling program reduced FY2000 waste volumes for final disposal to 60% of FY1996 levels.

\* Volume of recycled waste / Volume of generated waste (after dehydration)

### Volume of generated waste

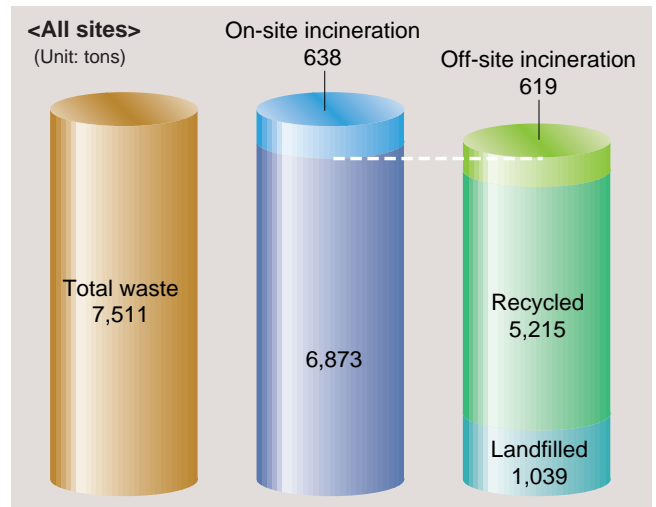
Sludge volume is taken as the quantity of waste after dehydration.



(The Terumo Environmental Report 2000 cited the FY1996 final disposal volume as 2,228 tons. This figure has been amended to 2,249 tons.)

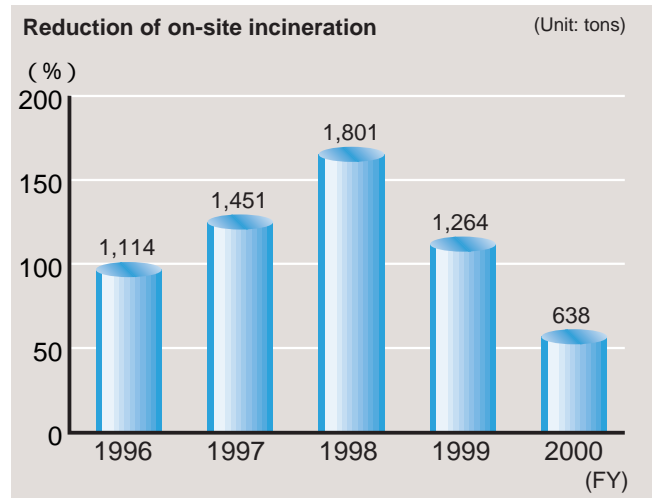
## Breakdown of waste treatment and disposal in FY2000 (all sites)

In FY2000, 7,511 tons of waste was produced at all Terumo sites (head office, factories, and the Research and Development Center). The total waste volume transported off-site, including the combustion residue from on-site burning, amounted to 6,873 tons. Of this volume transported off-site, 619 tons were incinerated by waste contractors, 5,215 tons were recycled, and 1,039 tons of waste were buried in landfills.



## Reducing on-site incineration

In FY2000, the volume of waste incinerated at Terumo sites was reduced to 43% of FY1996 levels. We will continue to reduce on-site burning substantially in the coming years.



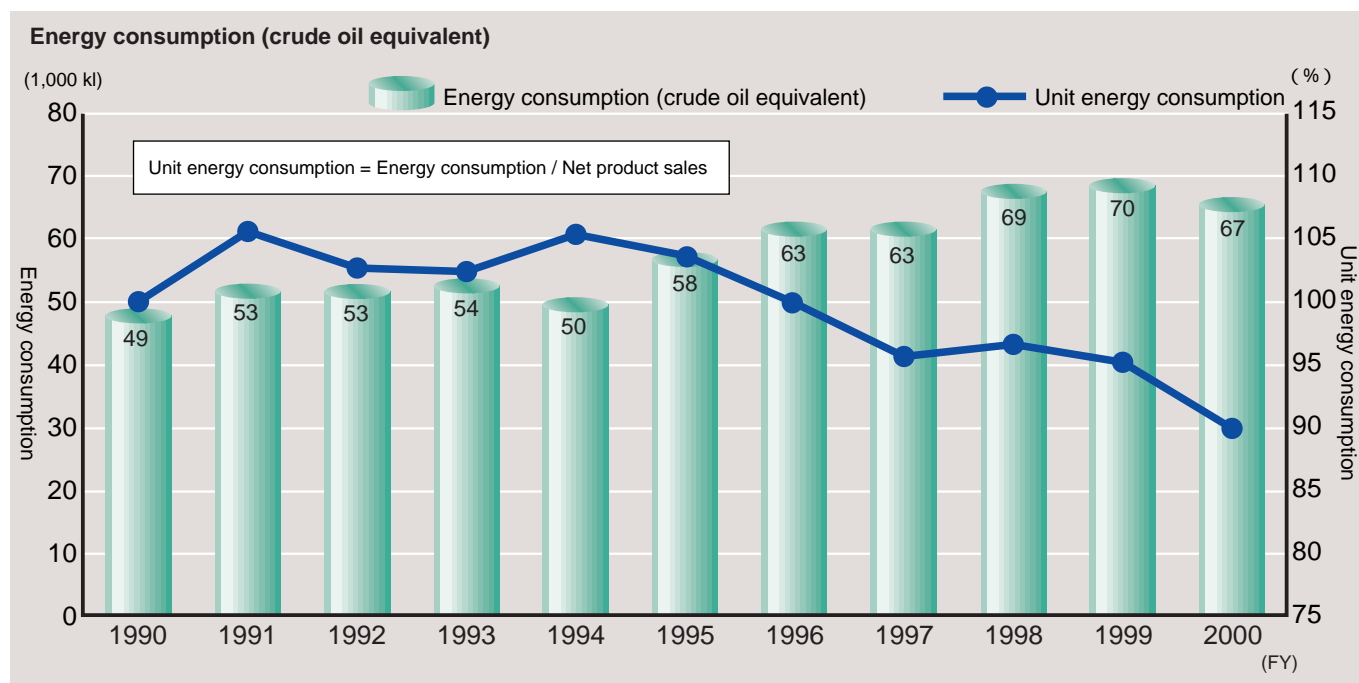


# Energy management

Manufacturing plants consume electricity, fossil fuels, and other forms of energy and resources. As a member of the global community, we are endeavoring to reduce energy consumption.

## Saving energy

To utilize limited resources efficiently, we are pursuing energy savings at all Terumo business sites. In FY2000, we succeeded in cutting unit energy consumption (the amount of energy consumed per unit of net sales) by 10% relative to FY1990, surpassing our 6% target.



## Reversing the pattern of rising energy consumption

Expansion of production capacity in recent years has contributed to rising energy consumption. New premises for our Shonan head office were constructed in FY1990, the Fujinomiya Factory was expanded in FY1997, a new facility was built at the Ashitaka Factory in FY1998, and in FY1999 a new building and distribution terminal were constructed at the Fujinomiya Factory. However, not only have we met the minimum 1% annual reduction in energy consumption required under the revised Law Concerning the Rational Use of Energy, we have in fact reversed the upward trend in absolute energy volumes and now have a declining pattern of energy usage. This has been achieved by installing co-generation plants at our Kofu Factory in FY1997, at our Fujinomiya Factory in FY1999, and in our Ashitaka Factory in FY2000. The plants generate power from a gas turbine, and the generated heat is utilized as steam for air-conditioning and high-pressure steam sterilization. We have also installed a steam accumulator at the Fujinomiya Factory to upgrade and improve the operating stability of the co-generation plant.



Co-generation plant (Kofu Factory)

# Chemical substances management

Terumo is making every effort to reduce emission levels and to recover and recycle chemical substances. We regularly monitor emission and transfer volumes of voluntarily controlled substances in addition to those designated in the Pollutant Release and Transfer Register (PRTR)\*1.

## Target for reducing chemical substance emissions

Reduce dichloromethane emissions by at least 60% in FY2001 relative to FY1996.

Reduce tetrahydrofuran (THF) emissions to no more than 10 tons at all sites in FY2001.

## Reducing dichloromethane emissions

The dichloromethane recovery plants installed at our Kofu Factory and Ashitaka Factory are currently operating at a recovery rate of 98%. We have achieved a significant 59% reduction in dichloromethane emissions relative to FY1996.

## Reducing THF emissions

In FY2000, following a review of the production process at factory sites, we were able to reduce THF emissions to less than 10 tons (8 tons at the Fujinomiya Factory and 9 tons at the Ashitaka Factory), one year ahead of target. We will continue to maintain and manage emissions below the 10-ton threshold.

### \*1 Pollutant Release and Transfer Register (PRTR)

A system that requires the types and quantities of pollutants and chemical substances handled by business premises to be itemized and reported to the authorities, and the information to be disclosed to the general public (under the Law Concerning the Reporting of the Release into the Environment of Specific Chemical Substances and Promoting Improvements in their Management).



Dichloromethane recovery plant (Kofu Factory)



Dichloromethane recovery plant (Ashitaka Factory)

## Quantities of chemical substances handled by Terumo (unit: tons)

Chemical substance	Qty. handled	Emission vol.	Transfer vol.
Dichloromethane	294	141	4
Toluene	18	13	4
Ethylene oxide	64	12	0
HCFC-141b*2 (CFC substitute)	44	34	0
HCFC-225 (CFC substitute)	54	13	2
Copper salts	110	0	0
Di-(2-ethylhexyl) phthalate (DEHP)	1422	0	180
Di-(2-ethylhexyl) adipate (DEHA)	3	0	0
Di-(n-butyl) phthalate (DBP)	2	0	2
Tetrahydrofuran (THF) Fujinomiya Factory	12	8	1
Ashitaka Factory	27	9	0

Emission volume: Total volume released into the soil, water, and air  
Transfer volume: Waste

### \*2 Hydrochlorofluorocarbon (HCFC)

A chemical compound containing only carbon, hydrogen, chlorine, and fluorine atoms. HCFCs are used as replacements for chlorofluorocarbons (CFCs) because they have a lower ozone-depletion potential.

### Managing and storing equipment containing PCBs

Prompted by an incident in which a fluorescent lamp ballast containing PCBs burst at a Tokyo primary school, Terumo in FY2000 undertook a full inspection of the management and storage of all equipment containing PCBs. As a result, the PCB-containing equipment formerly stored at individual sites has been consolidated at just two locations, the Fujinomiya Factory and Ashitaka Factory, where it will be stored and managed until PCB processing technology becomes available. The PCB-containing equipment currently in use is also scheduled for replacement and managed storage.

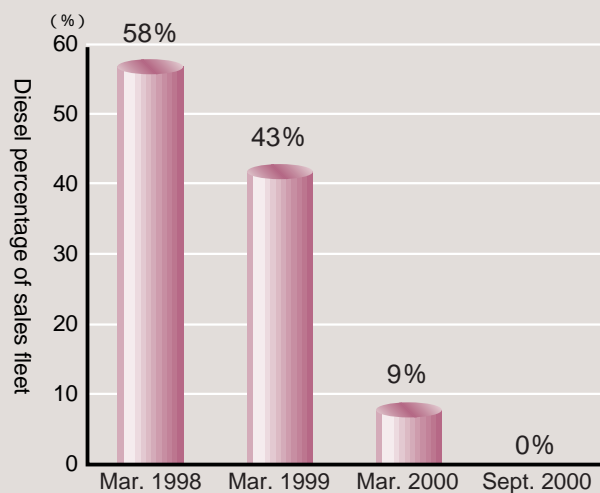
Terumo site	PCB usage		PCB storage		
	Fluorescent lamp ballasts	Condensers	Fluorescent lamp ballasts	Condensers	High-voltage reactors
Fujinomiya Factory	510	12	29	11	0
Ashitaka Factory	403	0	0	18	2
Suruga Factory	77	0	0	0	0

(As of July 2001, no PCBs are stored or used at our Kofu Factory, Shonan Research and Development Center, or Head Office.)

### Complete phase-out of diesel-fueled sales vehicles

Diesel-fueled vehicles are an identified source of particulate matter. We have gradually reduced our fleet of diesel-fueled sales vehicles, replacing each with a gasoline vehicle on expiration of the lease. The phase-out was completed in FY2000.

#### Phase-out completed for diesel-fueled sales vehicles



### Preventing depletion of the ozone layer

Phase-out of controlled CFCs and reduced usage of substitute chemicals

In 1997 we completely phased out the CFCs used in manufacturing processes. We have stringent controls on the quantities of chemicals used as substitutes, and we are endeavoring to recover and reduce emissions of these chemicals.



Equipment for recovering ozone-depleting substances (Ashitaka Factory)

## Service to the community

As part of Terumo's service to the community, we participate in local environmental initiatives in the neighborhoods where we work.

### Volunteer-based clean-up campaigns

- Fuji City Clean Campaign (Suruga Factory)
- Neighborhood clean-up (Ashitaka Factory)
- Joei River clean-up (Kofu Factory)
- Ninomiya coastal clean-up (Shonan Center)
- Arakawa Clean Aid 2000 (head office)



Arakawa Clean Aid 2000



Neighborhood clean-up



Fuji City Clean Campaign

### Relief aid to disaster areas

Terumo provided syringes, blood bags, and other emergency medical supplies in response to the January 2001 earthquakes in El Salvador and India.

### Support for environmental organizations

As part of our staff volunteer activities, Terumo supports a number of environmental organizations.

Main organizations supported by Terumo:

- Keidanren Nature Conservation Fund
- Japan Industrial Waste Management Foundation
- Mt. Fuji clean-up campaign



Relief supplies for the Indian earthquake

### Environmental performance awards

As a means of promoting conservation efforts at our business sites, in FY2000 we launched two environmental performance awards in recognition of the outstanding efforts of selected departments.

Award	FY2000 recipient
Environmental Contribution Award	Industrial Waste Group
Environmental Performance Award	Ashitaka Factory



Industrial Waste Group  
(Mr. Tanokura)



Ashitaka Factory (Mr. Ide)

### External awards

Terumo has received external commendation for our environmental initiatives (energy efficiency measures).

#### Awards received in FY2000

Recipient department	Award	Sponsor
Fujinomiya Factory	Distinguished Award	Association of Boilers and Turbines Chief Engineers, Kanto Bureau of Economy, Trade and Industry
Ashitaka Factory	Excellence Award	Kanto Region Electricity-Usage Rationalization Committee
Shonan Center	Excellence Award	Japan Association of Refrigeration and Air-conditioning Contractors

### Disclosure of information

**Publication of Terumo Environmental Report**  
In FY2000 we published Japanese and English editions of our environmental report, the first such report in the Japanese medical equipment industry.

**Articles in trade journals**  
“Boiler systems compliant with the Law Concerning the Rational Use of Energy” (by Gotoh and Kuroki, Fujinomiya Factory), *Setsubi to Kanri* (Facilities and Management), Nov. 2000  
“Developing environmentally aware products” (by Nakahashi, Environment Management Department), *Gekkan Yakuji* (Pharmaceutical Monthly), Mar. 2001

**Environment-related news about Terumo**  
In FY2000, our environmental initiatives were cited in newspapers on 20 occasions. We also kept environmental issues to the fore within the company, through our newsletters, video news and intranet news, to promote greater awareness and knowledge among our employees.



*Setsubi to Kanri* (Facilities and Management)



Terumo Environmental Report 2000 (Japanese and English)

## A history of caring for the environment

1972	A facility for treating mercury-contaminated wastewater was installed at the Ashitaka Factory.
1975	A wastewater treatment plant was installed at the Fujinomiya Factory, and subsequently at the Ashitaka Factory (1980).
1976	Acid-based surface treatment of needle hubs (base portion of needle) was abolished in favor of plasma treatment which generates no acid waste fluid. The Fujinomiya and Ashitaka Factories signed an anti-pollution agreement with Fujinomiya city.
1979	LPG, which produces lower levels of flue gas, replaced heavy oil as the boiler fuel used at the Fujinomiya Factory.
1980	Thermoplastic elastomer replaced rubber as the material for syringe gaskets, thereby eliminating SO <sub>x</sub> emissions at incineration.
1981	Intravenous solution containers (TERUPAK) made of non-PVC materials were introduced. Ethylene vinyl acetate (EVA) was chosen because it produces no noxious gases when incinerated.
1982	Trichloroethylene (TCE) was completely phased out ahead of its designation as a controlled carcinogen.
1983	Gamma irradiation, which produces no gas emissions, was introduced as the sterilization method used at the Kofu Factory.
1984	Terumo's 70-year history of mercury thermometer manufacturing ended in favor of eliminating mercury-containing instruments. Non-mercury digital thermometers were launched on the market in 1983.
1989	Glass vacuum blood tubes were replaced by plastic products made of a polyester material that can be safely incinerated.
1991	Non-PVC infusion sets went on the market. For the tubing, polybutadiene was chosen because it emits no noxious gases when incinerated.
1992	Digital blood-pressure monitors for hospital use debuted as part of our drive to eliminate mercury and to protect the environment in clinical settings.
1994	Urethral balloon catheters made of natural rubber ceased production. Balloon catheters made of thermoplastic elastomers, which produce no SO <sub>x</sub> when incinerated, were launched on the market.
1996	Controlled ozone-depleting CFCs ceased to be used in manufacturing processes at the Kofu Factory (and subsequently at other factories).  Infusion sets with a new type of plastic spike began production. The use of non-metallic spikes facilitates sorting and incineration of hospital waste.
1997	<b>Terumo's Environmental Affairs Office was established.</b> A co-generation power plant started operation at the Kofu Factory, supplying 60% of the factory's electricity requirements.
1998	The Fujinomiya and Ashitaka Factories switched from LPG to natural gas (LNG), which produces lower CO <sub>2</sub> emissions.
1999	<b>Terumo's Environmental Policy was formulated.</b> More compact, lightweight syringes were introduced, reducing the waste volume of discarded syringes by approx. 25%. Corporate offices began switching to recycled paper for photocopying purposes. An environmentally friendly co-generation power plant started operation at the Fujinomiya Factory. Corporate offices began switching to recycled paper for printing of catalogs and design change notifications. Non-PVC materials were introduced for manufacturing CAPD bags for home use. The switch to polypropylene, which emits no noxious gases when incinerated, resulted in 40% waste reduction.
2000	<b>The Terumo Environment Committee was initiated.</b> A co-generation power plant started operation at the Ashitaka Factory. Packaging recycling began under contract with the Japan Containers and Packaging Recycling Association. Labeling to identify packaging materials and equipment components was introduced. Internal environmental auditing commenced. Diesel-fueled company vehicles were completely phased out. Terumo Environmental Report 2000 was published.

# Company profile

## Company Profile (as of March 31, 2001)

Head Office: 44-1, 2-chome, Hatagaya, Shibuya-ku, Tokyo 151-0072, Japan

Tel: 03-3374-8111 Fax: 03-3374-8399

URL: <http://www.terumo.com>

Date of Establishment: September 17, 1921

Common Stock: ¥38,716 million

Number of Shares Issued: 210,876,260

Number of Stockholders: 22,457

Number of Employees: 7,412

Stock Exchange Listing: The First Section of the Tokyo Stock Exchange

## Terumo Business Offices & Factories (as of March 31, 2001)

### Domestic Offices/Factories

Head Office, Shonan Head Office, Terumo Research & Development Center, Fujinomiya Factory, Ashitaka Factory, Kofu Factory, Suruga Factory

### Domestic Sales Offices

Sapporo, Morioka, Sendai, Niigata, Utsunomiya, Mito, Omiya, Kawagoe, Chiba, Matsudo, Tokyo, Tokyo Daini, Tama, Yokohama, Shonan, Matsumoto, Shizuoka, Nagoya, Tsu, Kanazawa, Kyoto, Osaka, Kita Osaka, Kobe, Sakai, Okayama, Hiroshima, Takamatsu, Matsuyama, Tokushima, Kochi, Fukuoka, Kita Kyushu, Oita, Kumamoto, Kagoshima, Miyazaki, Okinawa

### Principal Overseas Manufacturing Plants

Terumo Medical Corporation  
(Maryland, U.S.A.; Headquarters, New Jersey, U.S.A.)  
Terumo Europe N.V. (Leuven, Belgium)  
Terumo Cardiovascular Systems Corp.  
(Michigan, California, Maryland, and Massachusetts, U.S.A.)  
Terumo Medical Products (Hangzhou) CO.,LTD. (Hangzhou, China)  
Terumo (Philippines) Corporation (Lagune, Philippines)  
Terumo Penpol Ltd. (Trivandrum, India)

### Principal Overseas Sales Offices

Asia and Australia: Terumo Marketing Philippines, Inc., Taipei Branch, Hong Kong Branch, Shanghai Office, Beijing Office, Guangzhou Office, Singapore Branch, Terumo (Thailand) CO.,LTD., Hanoi Representative Office, Kuala Lumpur Branch, Jakarta Office, Chennai Branch, Dubai Branch, Australian Branch  
Americas: Terumo Medical Corporation, Miami Sales Office, Terumo Cardiovascular Systems Corp., Terumo Medical De Mexico S.A.DE C.V., Terumo Medical do Brazil Ltda.  
Europe: Terumo Europe N.V., Laboratories Terumo France S.A., Terumo (Deutschland) GmbH, Terumo Cardiovascular Systems Europe GmbH, Rome Branch, Madrid Branch, UK Branch, Benelux Branch, North Europe Branch

### Principal Affiliated Companies

Changchun Terumo Medical Products CO.,LTD. (Changchun, China)  
Terumo BSN K.K. (Tokyo, Japan)  
Terumo Trading CO.,LTD. (Tokyo, Japan)

### For further information, please contact:

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[www.terumo.com](http://www.terumo.com)