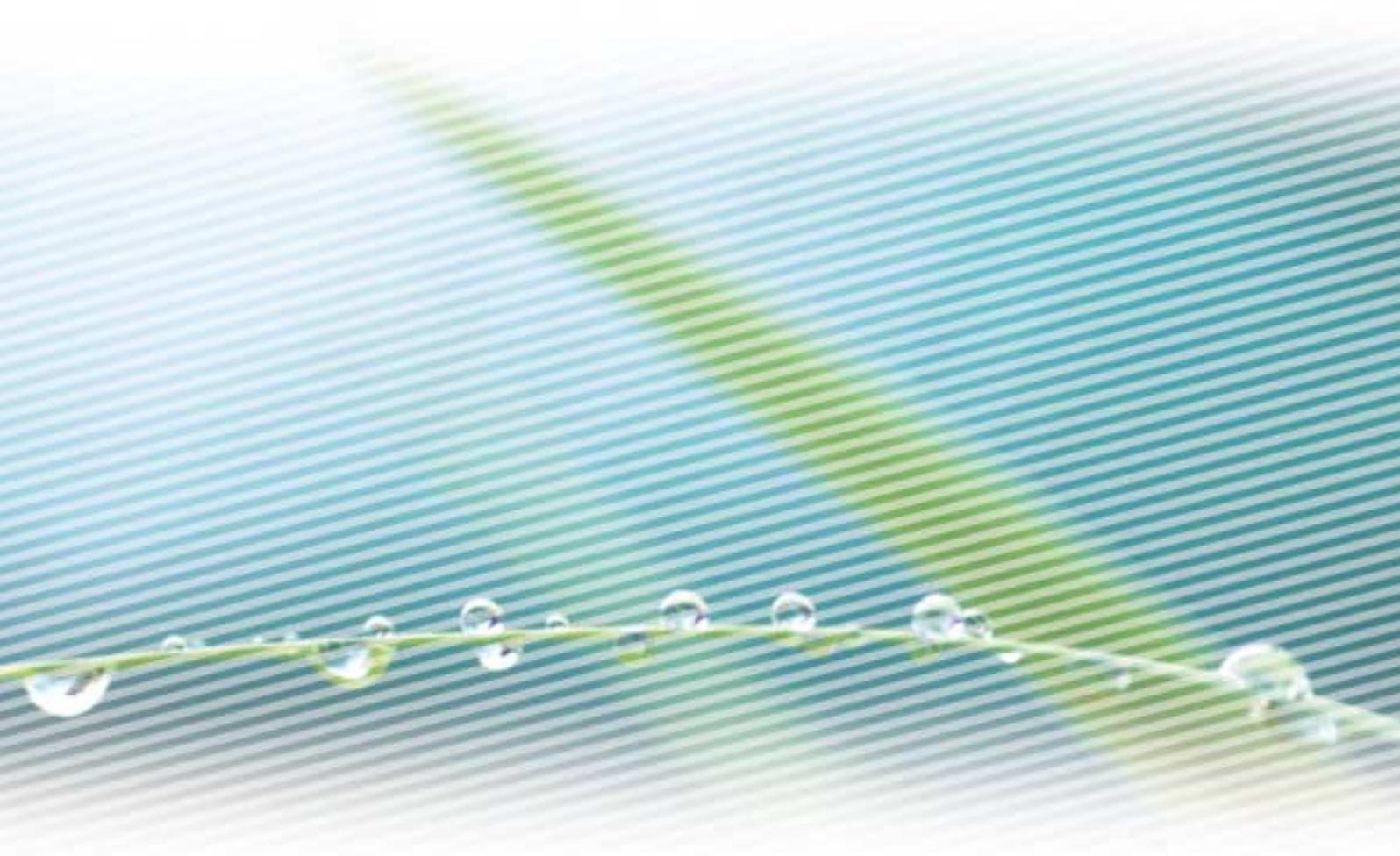


TERUMO ENVIRONMENTAL REPORT 2000



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## A Message from the President

On the publication of Terumo's Environmental Report

Since the founding of our company, Terumo corporate policy has been to "contribute 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 naturally cannot be indifferent to the global environment, our most fundamental basis for living healthy lives.

Providing safe and reliable medical supplies, systems, and equipment is our primary mission. As we continue to fulfill this mission in the coming years, it is imperative that we develop, produce, and offer our customers environmentally sound products in environmentally acceptable ways. It is hardly overstating the case to suggest that our very future as a company is founded on our commitment to addressing environmental issues.

Throughout the years, Terumo has sought to implement good environmental practices. In fiscal 1999 we established company-wide structures to strengthen our conservation efforts. This fiscal year, for the first time, we have summarized these efforts in the form of an environmental report. The report covers our achievements in regard to environmental protection, a management issue of vital concern, during the year from April 1999 to March 2000. 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 2000



President and Chief Executive Officer

*T. Wae*

# 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.

## Value Statement

### ● 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.

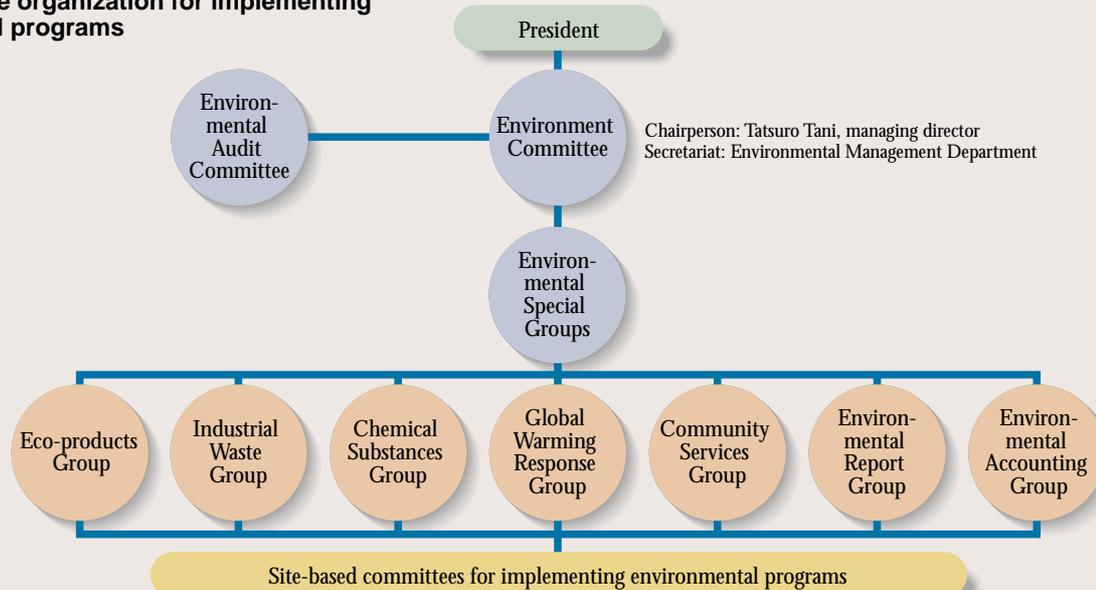
## Terumo's Environmental Policy (adopted December 1999)

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 help us to provide safe and reliable medical equipment to society.

- 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.
- To protect and audit its environmental protection activities, Terumo has established an environmental management system.
- As a member of the global community, Terumo will support environmental protection activities.
- 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 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

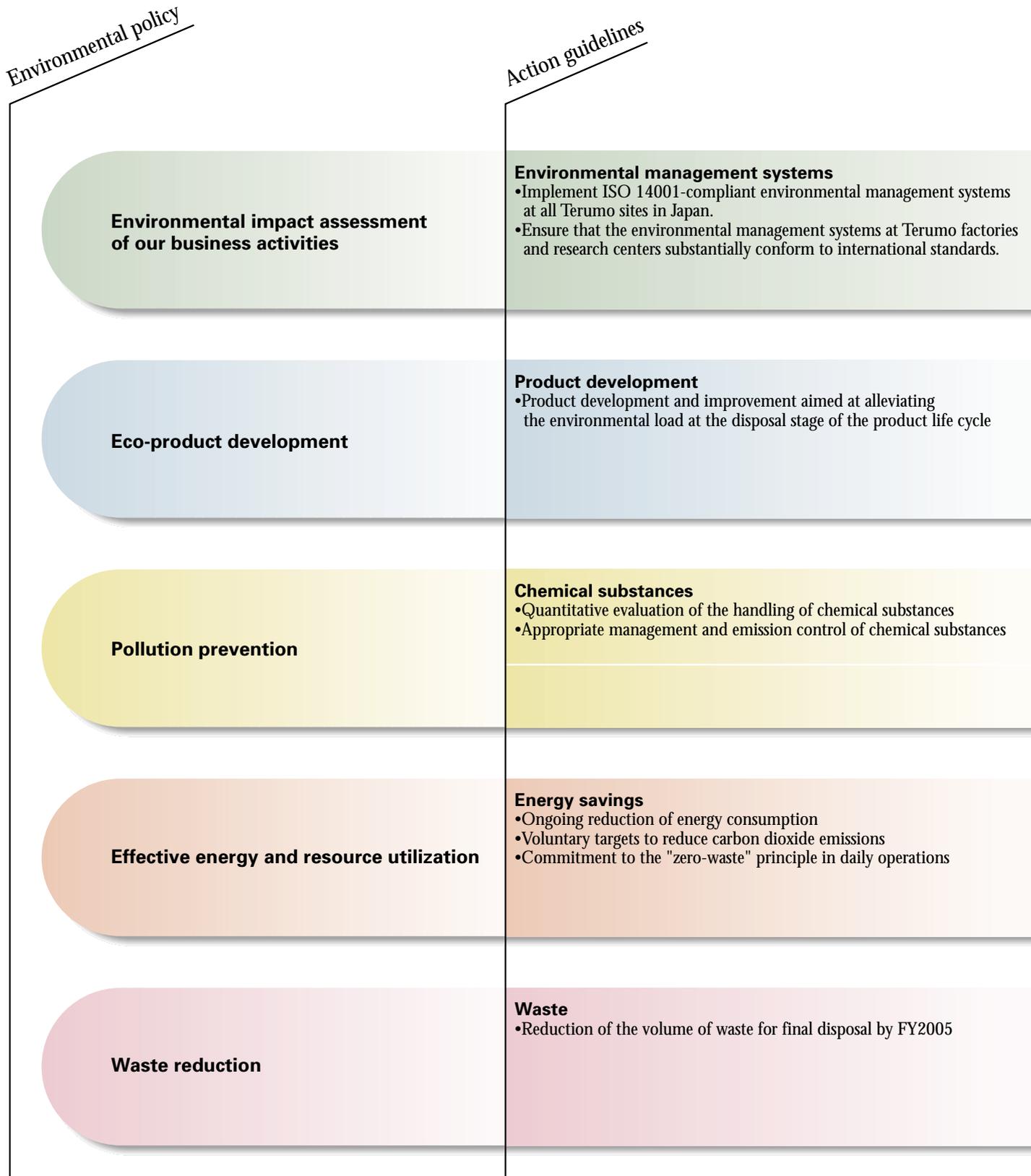
This group balances environmental costs and benefits, considers ways of systematizing the calculations, and discusses how to give weight to environmental accounting as a basis for decision making in business management.

### 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.

# Environmental Management System

Terumo is already taking practical steps toward meeting the voluntary objectives established in our environmental policy.



## Voluntary objectives

## Achievements in FY1999

- By FY2001, complete a quantitative assessment of the environmental impacts of development, production, and sales activities.
- By FY2001, ensure that the environmental management systems at Terumo factories and research centers in Japan substantially conform to international standards.

- Voluntary commitments established.
- Activities initiated to quantitatively assess environmental impacts.

- Reduce usage of natural rubber and PVC, materials that carry a heavy environmental load.
- Reduce garbage volumes by using simpler forms of packaging.
- Promote R&D to design products that can be easily handled and sorted for recycling.

- Volume of syringes reduced by 25%.
- PVC substitutes introduced and volume of CAPD bags reduced by 40%.
- Non-PVC arm bands introduced for blood-pressure monitors for general use.
- Non-PVC packaging materials introduced.

- Reduce FY2001 dichloromethane emissions by at least 60% from FY1996 levels.
- Reduce tetra hydrofuran (THF) emissions to no more than 10 tons at all sites in FY2001.

- FY1999 dichloromethane emissions reduced by 32% from FY1996 levels.
- Maximum volume of THF emissions at all sites was 12.3 tons.

- Completely phase out diesel-fueled sales vehicles in FY2000.

- Proportion of diesel-fueled company vehicles reduced to 9% of the total as of March 2000.

- Reduce FY2000 unit energy consumption at Terumo business sites in Japan (excluding sales centers) by 6% relative to FY1990 energy requirements.

- Unit energy consumption at business sites (excluding sales centers) reduced by 4.8% from FY1990 levels.

- Reduce the amount of waste for final disposal generated at production plants in Japan by 70% in FY2005 relative to FY1996 levels.

- Amount of waste for final disposal reduced by 25% from FY1996 levels.

Note: *Emissions* refers to the total volume of the pollutant released into the environment by discharge into the atmosphere, water systems, or soil.

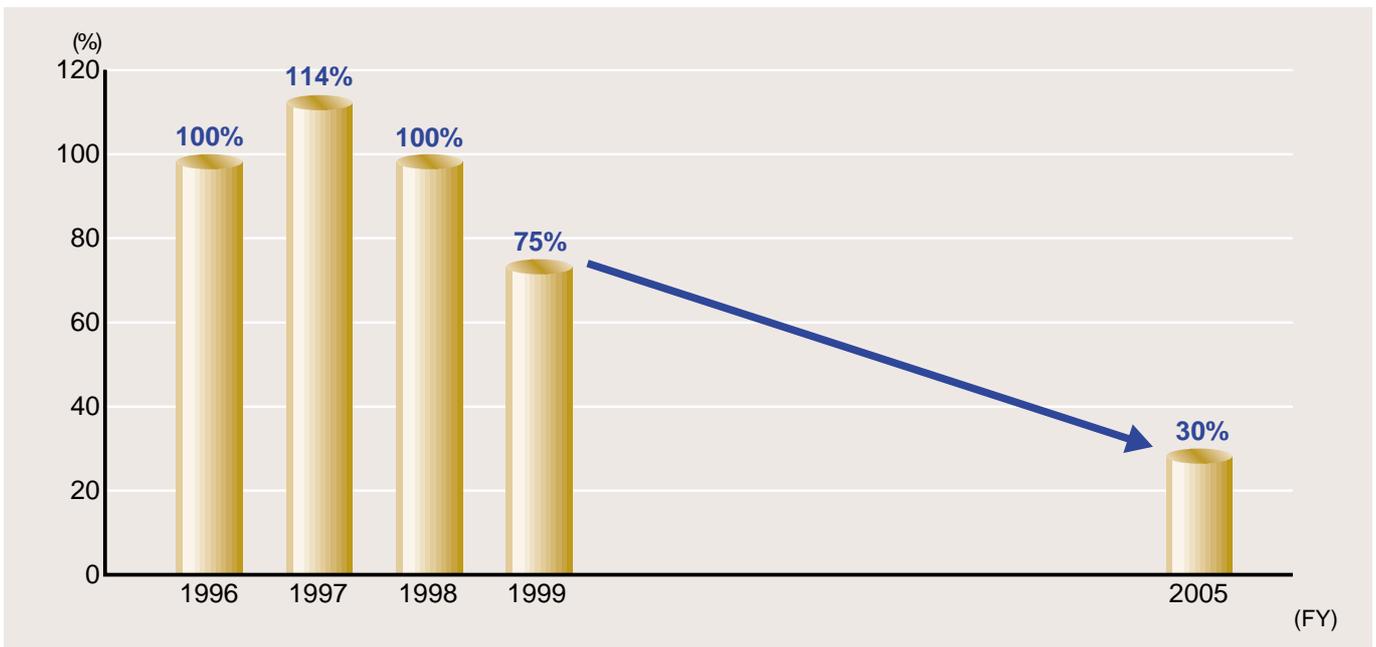
# Environmental Protection Activities (1) Waste reduction

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:

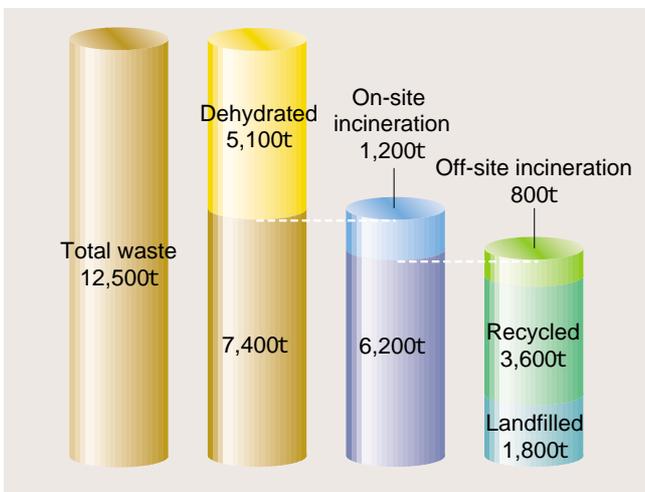
Reduce the volume of factory waste for final disposal by 70% in FY2005 relative to FY1996 levels.

### Final disposal volumes (relative to FY1996)



### Breakdown of waste treatment and disposal in FY1999 (all sites)

The total volume of waste produced in FY1999 at all Terumo sites (head office, factories, and the Research and Development Center) was 12,500 tons. As some of this waste has a high water content, the total waste volume diminished to 7,400 tons after removal of water by on-site dehydrators. On-site burning of combustible waste further reduced the total to 6,200 tons, including the incineration residue. Of this final total volume transported off-site, 800 tons was incinerated, 3,600 tons was recycled, and 1,800 tons of waste was buried in landfills.



### Future initiatives

To further reduce waste volumes for final disposal (landfill), we will need to employ manufacturing methods that minimize generated waste volumes and find new ways of recycling waste materials.

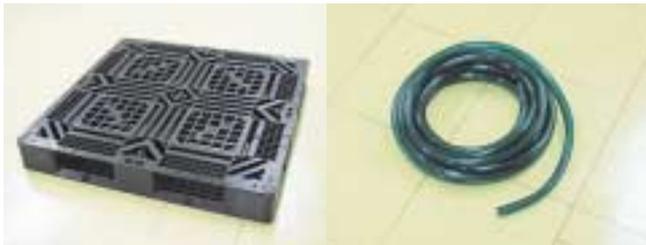
The largest proportion of the 1,800 tons of landfilled waste is the grinding sludge produced in the manufacture of needles. We are now exploring effective ways of recycling this sludge.

## Recycling efforts

At Terumo, we manufacture medical instruments and pharmaceutical containers made of plastic. For safety reasons, however, we do not reuse any factory-generated plastic waste in our products. Instead of reusing waste, we are endeavoring by various means to reduce waste volumes.

### Plastic material recycling\*<sup>1</sup>

The polypropylene generated in the manufacture of disposable syringes at our Kofu Factory is reformed and recycled as container pallets or poly-packs, for example. The waste PVC generated in the manufacture of infusion sets is separated out and recycled as plastic hosing and other items.



Container pallet (left) and hose (right) made of reformed plastic waste

### Producing fertilizer from organic sludge

The organic sludge from the wastewater treatment facilities at our Kofu Factory, Fujinomiya Factory, and Ashitaka Factory is dewatered on site and then processed into organic fertilizer under contract by a fertilizer manufacturer for reuse in farming.



Fertilizer made from organic sludge from the Fujinomiya Factory

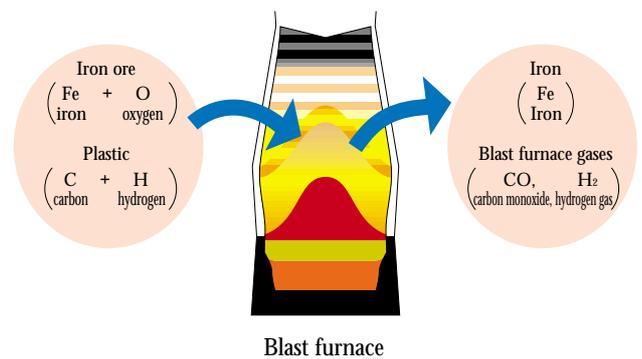
## Utilizing plastic waste in blast furnaces

The coke traditionally used as the reduction agent in steelmaking blast furnaces can be replaced by plastic waste. Using plastic feed produces less carbon dioxide than coke, and no dioxins are emitted at all.

At our Kofu Factory, all the non-PVC plastic waste from the manufacture of infusion sets has been processed as blast-furnace feed since 1998. At our Fujinomiya Factory, the plastic waste generated in the manufacture of containers for intravenous solutions has been recycled in this way since 1999.



Plant for using plastic as blast-furnace feed (NKK Corp.)



### Thermal recycling\*<sup>2</sup>

Waste from vacuum blood tubes is thermally recycled as a fuel for cement manufacture. Because cement is fired at temperatures of 1,400 or higher, there is no risk of dioxin generation.



Kiln at a cement plant

### Workplace recycling

To cut down on paper, we promote the use of computers and technology, and encourage double-sided photocopying and other efficiencies. Receptacles are located throughout our offices for sorting and recycling materials like paper, cans, glass bottles, PET bottles, biodegradable garbage, and incombustible waste.

\* 1 Material recycling: To melt down and reform plastic waste for reuse as a material.  
\* 2 Thermal recycling: To burn plastic waste, reusing it as a fuel.

## Environmental Protection Activities (2) Energy management

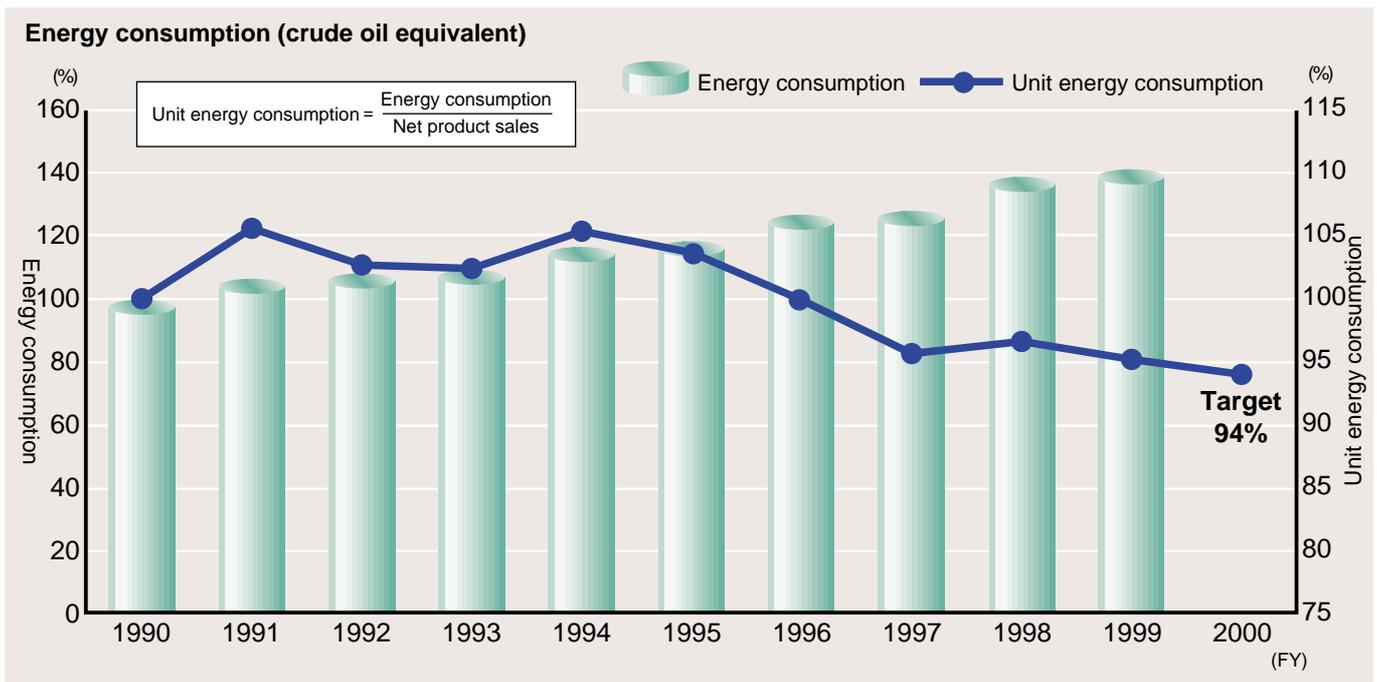
Manufacturing plants consume electricity, fossil fuels, and other forms of energy and resources. As a member of the global community, we are endeavoring to reduce energy consumption.

### Target for reducing energy consumption:

Reduce unit energy consumption at business sites in Japan (excluding sales centers) by 6% in FY2000 relative to FY1990.

### Energy consumption

All of Terumo's domestic bases are united in their efforts to save energy and help us reach our target of cutting unit energy consumption in FY2000 to 94% of FY1990 energy requirements.



### Causal factors and efforts to curb 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.

On a positive note, we were able to offset these increased energy requirements and promote energy efficiency 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 gas turbines, and the generated heat is utilized as steam for air-conditioning and high-pressure steam sterilization.



Co-generation plant (Kofu Factory)

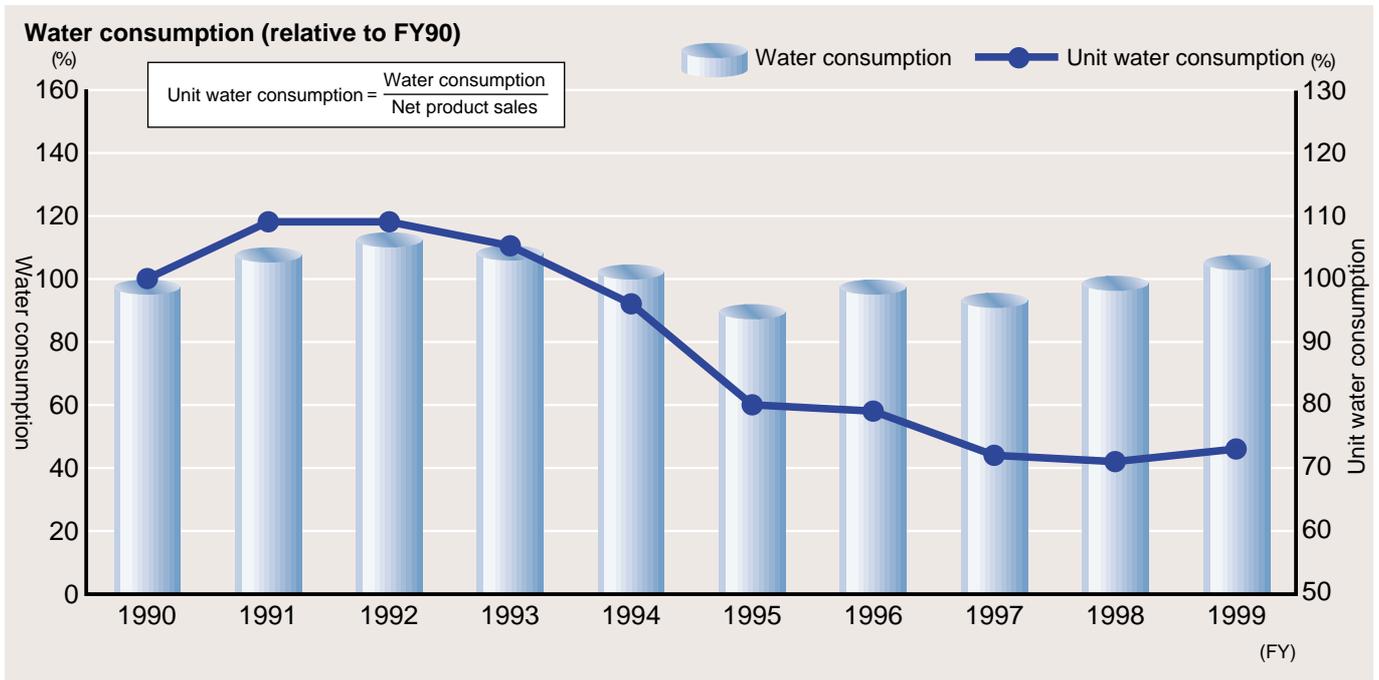
## Water reuse

At Terumo, we are reducing water consumption by installing equipment that efficiently reuses the cooling water circulated in high-pressure steam sterilization equipment.

Thanks to these water reuse plants, we have managed to keep our water consumption to FY1990 levels despite increased produc-

tion.

The volume of water reused in FY1999 via the industrial water reuse plants installed at the Fujinomiya Factory and Kofu Factory amounts to 920,000 cubic meters, enough to fill the Tokyo Dome three-quarters full.



Industrial water reuse plant (Fujinomiya Factory)



Industrial water reuse plant (Kofu Factory)

## Environmental Protection Activities (3) Chemical substances management

Terumo is making every effort to reduce emission levels and to recover and recycle chemical substances. We are monitoring 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.

### Installation of dichloromethane recovery plant

Equipment for recovering dichloromethane was installed at our Kofu Factory in the fall of 1999. This plant is currently operating at a recovery rate of 98%, achieving a substantial reduction in dichloromethane emissions.

Similar equipment was installed at the Ashitaka Factory's dialyzer (artificial kidney) production facility to further reduce dichloromethane emissions.



Dichloromethane recovery plant (Kofu Factory)



Dichloromethane recovery plant (Ashitaka Factory)

\* 1 Pollutant Release and Transfer Register (PRTR)

A system that requires the types and quantities of pollutants and chemical substances entering and exiting business premises to be itemized and notified to the authorities, and the information to be disclosed to the general public.

### Quantities of chemical substances handled by Terumo

Chemical substance	FY1999 quantity (tons)
Dichloromethane	474
Toluene	23
Ethylene oxide	71
HCFC-141b (CFC substitute)*2	55
HCFC-225 (CFC substitute)	101
Copper salts	68
Di-(2-ethylhexyl) phthalate (DEHP)	1,782
Di-(2-ethylhexyl) adipate (DEHA)	4
Di-(n-butyl) phthalate (DBP)	76
Tetrahydrofuran (THF)	37

\* 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.

## 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)

# Concern for the Global Environment

Global warming and ozone depletion are environment issues of global concern.

At Terumo, we have a number of programs in place to lessen the burden on the global environment.

## Preventing global warming

### Modal shift

Maritime and rail transportation produce less carbon dioxide (CO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) than truck haulage, and they help alleviate congestion on the roads.

At our Fujinomiya Factory, we have shifted from trucks to maritime and rail transportation for some of our distribution operations.

In FY1999, products from our Fujinomiya Factory in Shizuoka Prefecture were transported by rail to Sendai, and by ship to Sapporo and Fukuoka. This move has reduced CO<sub>2</sub> emissions by an estimated 1,000 tons.\*

(Calculation)

#### Maritime transportation (port-to-port distances only)

Fujinomiya Factory → Sapporo

$$1,000(\text{km}) \times 3,399(\text{t}) \times (48-10) \times 44 / 12 / 1,000,000 = 474\text{t}$$

Fujinomiya Factory → Fukuoka

$$1,000(\text{km}) \times 3,794(\text{t}) \times (48-10) \times 44 / 12 / 1,000,000 = 529\text{t}$$

#### Rail transportation

Fujinomiya Factory → Sendai

$$500(\text{km}) \times 162(\text{t}) \times (48 - 6) \times 44 / 12 / 1,000,000 = 12\text{t}$$

Total: 1,015 t

\* CO<sub>2</sub> emissions are calculated as 48g-C/ton for truck transportation, 10g-C/ton for maritime transportation, and 6g-C/ton for rail transportation.

### Changeover to LNG in factory operations

In 1997, we completed a changeover from liquefied petroleum gas (LPG) to liquefied natural gas (LNG), which produces lower CO<sub>2</sub> emissions, for fueling the boilers at our Fujinomiya Factory and Ashitaka Factory.

### Environmental load ratios at fuel combustion (taking coal as base 100)

	Coal	Oil	Natural gas
NO <sub>x</sub>	100	70	20~40
SO <sub>x</sub>	100	70	0
CO <sub>2</sub>	100	80	60

Source: Kanto Electric Association, Electric Power Monthly.

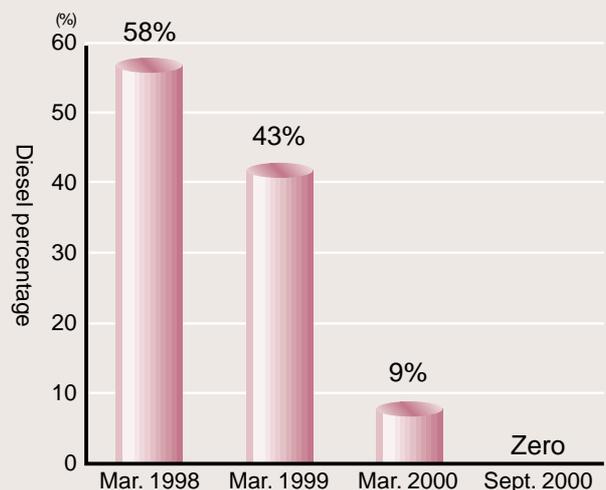


Ferry used for transporting Sapporo-bound goods ("Sunflower Tomakomai", 12,200 tons) courtesy of Otaru Souko KK.

## 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 September 2000.

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



# Eco-products

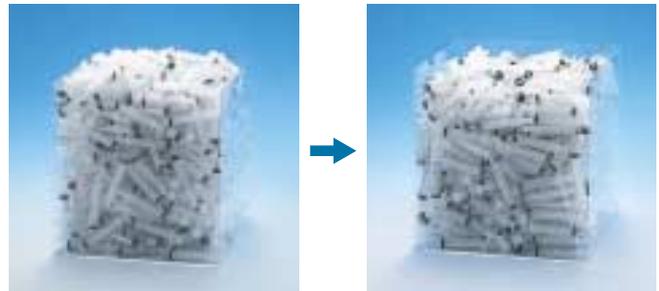
Terumo has always been mindful of environmental concerns in the products we provide. Some of our eco-products are described below.

## 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.

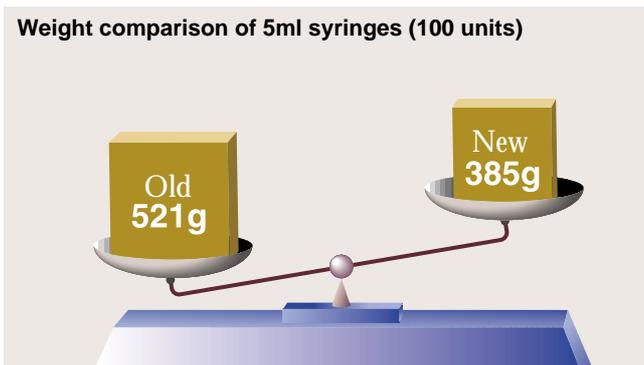
Since 1998, we have been making lighter, more compact syringes to reduce the amount of waste. We have achieved reductions of approximately 25% by syringe volume and 15% to 25% by weight.



Old type (example: SS-10ES)  
Less bulky disposable syringes

New type (example: SS-10ES2)

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



## Eliminating mercury

### Digital thermometers and digital blood-pressure monitors

In 1983, we began selling digital thermometers, replacing the mercury thermometers that were once a mainstay product and from which we derive our company name. A year later, in 1984, we ceased manufacturing mercury thermometers, marking the closure of a 70-year history of production. This eliminated mercury problems when disposing of thermometers, not only in hospitals and homes but also in our production facilities. In 1992, we began selling digital blood-pressure monitors to support the further reduction of mercury in healthcare settings.



Digital blood-pressure monitor



Digital thermometers

#### \* Elastomer

A polymer material that is elastic like rubber. Unlike ordinary rubber, however, thermoplastic elastomers contain no sulfur and do not have a cross-linked structure, which means they can be reformed under heat.

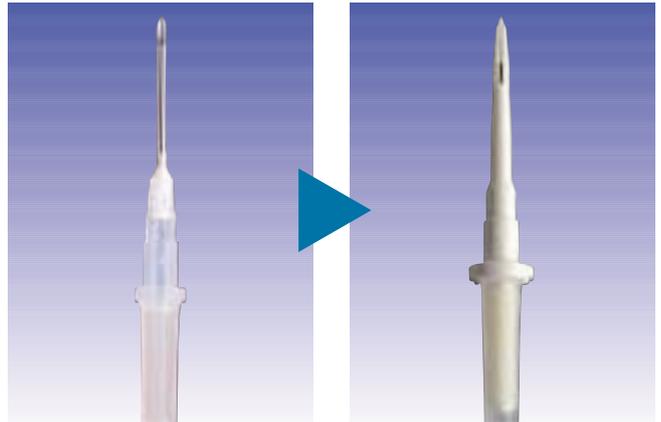
## Eco-products

### 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

### Easier incineration

#### Vacuum blood tubes

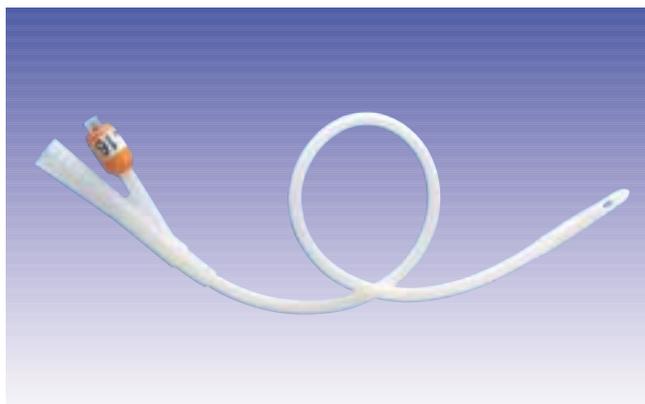
In 1989, we phased out glass vacuum blood tubes in favor of lighter, less breakable plastic products. This has resulted in reduced waste volumes and easier incineration of discarded tubes.



Vacuum blood tubes made of plastic

### Foley catheters for urinary patients

Sulfur is used to give natural rubber its elasticity, but sulfur oxides (SOx) are emitted when rubber is burned. In 1994, Terumo began manufacturing rubber-free Foley catheters (balloon catheters) made of thermoplastic elastomer.



Foley catheter containing no natural rubber

### Non-PVC products

#### Continuous ambulatory peritoneal dialysis (CAPD) bags

Peritoneal dialysis systems 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 CAPD bags. As well as introducing a different material, we made the film thinner and eliminated the outer packaging on the drainage bag, reducing the weight of the discarded product by 40%.



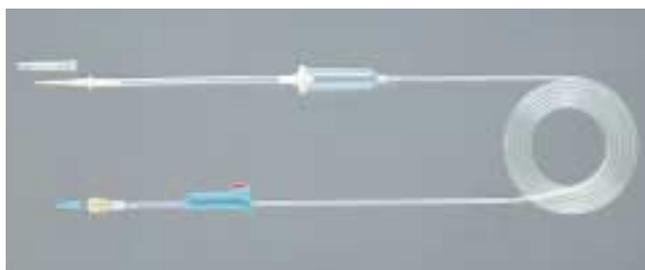
Peritoneal dialysis unit using non-PVC bags

#### Infusion sets

For administering drugs that contain surfactants, non-PVC infusion sets are preferable because of the risk that the plasticizer may leach out of PVC-based products.

In 1991, Terumo began marketing infusion sets made of polybutadiene, a non-PVC material. Today, we are continuing to extend our polybutadiene-based product range.

Polybutadiene contains no chlorine atoms in its molecular structure, eliminating any risk of dioxins or other pollutant emissions.

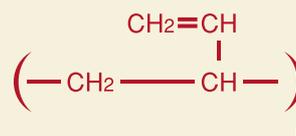


Non-PVC infusion set

PVC-free product mark displayed on packaging



\* PVC = Polyvinyl chloride



Chemical structure of polybutadiene resin

## Community Services and Staff Education

As part of Terumo's involvement in the community, we participate in local clean-up campaigns in the neighborhoods where we work.

### Keeping our factory environs clean and tidy

At our Ashitaka Factory (in Fujinomiya, Shizuoka Prefecture), the staff regularly clean up the trash around the factory as a way of contributing to the local environment. We have conducted the monthly clean-ups for six years now.

For about an hour after arriving at work, Terumo employees pick up the trash from the roads, ditches, shrubbery and vacant land around the factory. The collected garbage is sorted at the factory for recycling or incineration. In FY1999, approximately 300 people participated during the year (i.e. 300 person-hours), collecting about 120 kg of garbage.

Since FY1998, we have conducted an annual clean-up around the factory to coincide with Environment Month in June. In 1999, 71 people collected 45.8 kg of garbage. We will be continuing this effort in future years.

Every year around May 30, Japan holds a nationwide "Zero Trash" campaign aimed at beautifying the environment and reducing waste. In November, Yamanashi Prefecture has its own "Environment Capital: Yamanashi Clean Campaign" to encourage resident participation in keeping the prefecture beautiful.

Our Kofu Factory (in Showa-cho, Nakakoma County, Yamanashi Prefecture) holds a "clean sweep" campaign every May and November to clean up the factory premises and nearby streets.

On each occasion, between 100 and 200 people join together in an extensive clean-up of the neighborhood, covering the streets around the factory (total length of 2,500 meters) and the dry riverbed of the adjacent Joei River.

In FY1999, Terumo employees collected enough garbage to fill a shipping container. The garbage was recycled or disposed of at the factory, helping to keep the local area clean and tidy.



A clean sweep of the factory environs (June 2000 at the Ashitaka Factory)

### Staff volunteer activities (local efforts by conservation supervisors)

As environmental awareness grows on a worldwide scale, there has been a surge in volunteer movements concerned with environmental conservation. Initiatives are underway in many and diverse forms to enable nature and the human race to coexist into the future.

Against this background, Terumo employee Shoji Onoue has been involved in local environmental activities as a conservation supervisor appointed by his prefecture in April 1999. Twice a month Mr. Onoue does a tour of the extensive area that he is responsible for, making sure that the environment is being properly cared for and keeping watch for signs of unauthorized tree felling, dumping, or other illegal activities.

The Terumo Group actively encourages volunteer activities undertaken by employees on their own initiative and will continue to support the creation of a conducive work environment.



Mr. Onoue on an inspection tour

Terumo's Shonan Research and Development Center is located in Nakai-machi in Ashigarakami County, Kanagawa Prefecture, a tree-clad area endowed with an extensive natural environment. However, the western part of the prefecture is rapidly developing into a hi-tech zone, and regional development is proceeding apace. Maintaining a healthy balance between nature, industry and the community is increasingly important for the town.

### Number of personnel with environmental qualifications

We are promoting greater understanding of environmental protection in the workplace through the acquisition of formal qualifications related to the environment.

Qualification	Total	Factory	Research	Sales	Head office
Boiler engineer	85	71	2	3	9
Chief electrical engineer	15	12	0	0	3
Energy administrator	12	10	0	0	2
Certified environment measurer	2	1	0	0	1
Working environment measurement expert	4	3	1	0	0
Pollution prevention manager	59	41	8	3	7
Waste treatment facility engineering administrator	8	8	0	0	0
Dangerous substances officer	196	153	23	8	12
Officer in charge of poisonous and hazardous substances	17	12	4	0	1
Safety officer for high-pressure gas manufacturing	57	53	1	1	2
Site superintendent of organic solvents	149	135	12	1	1
Site superintendent of controlled chemical substances	47	35	8	1	3
Totals (cumulative qualifications)	651	534	59	17	41

# 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 SOx 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 SOx 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>

# 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, 1999 to March 31, 2000

(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)			970	1,163	426
Break down	(1)Pollution prevention	Wastewater treatment and solvent recovery plants	( 130 )	( 346 )	( 11 )
	(2)Protection of the global environment	Energy-saving facilities	( 679 )	( 458 )	( 369 )
	(3)Resource recycling	Waste treatment and recycling expenses	( 161 )	( 394 )	( 46 )
Costs incurred in minimizing the upstream and downstream environmental load arising from production and service activities (Upstream and downstream costs)		Eco-product manufacturing facilities	885	103	0
Costs of implementing environmental management programs (Management program costs)		Environmental management-related expenditure	0	41	0
Costs of implementing environmental R&D programs (R&D costs)		R&D expenditure for environmental load reduction of Terumo products	0	9	0
Costs of implementing community environmental services (Community services costs)		Maintaining and establishing urban green belts	3	118	0
Costs of environmental damage (Environmental damage costs)			0	0	0
Total			1,858	1,434	426

Investment: Amounts committed to anti-pollution and energy-saving equipment, local greening programs, etc. during FY1998

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 FY1999 results)

Category	Environmental load	Percentage change year-on-year	
Waste volume for final disposal (all plants)	1,839 t	-25.4 %	
Energy consumption (crude oil equivalent) (per net product sales; relative to FY1990)	69,694 kℓ ( 95.19 % )	-1.42 %	
Chemical substances (volume handled)	Dichloromethane	474 t	-22.9 %
	Toluene	23 t	-2.6 %
	Tetrahydrofuran	37 t	10.3 %
Water consumption	3,885,000 m <sup>3</sup>	6.3 %	

## Company Profile (as of March 31, 2000)

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

Tel: 03-3374-8111

URL: <http://www.terumo.co.jp>

Date of establishment: September 17, 1921

Paid-in capital: ¥38,700 million

Net sales: ¥140.5 billion (¥171.1 billion for the Terumo Group)

Pretax profit: ¥26.1 billion (¥26.5 billion for the Terumo Group)

Number of Employees: 4,233 (6,898 for the Terumo Group)

Main business: Manufacture and sales of medical products and equipment, including pharmaceuticals, nutritional food supplements, blood bags, disposable medical instruments, artificial organs, medical electronic equipment, and digital thermometers.

### **For further information, please contact:**

Environmental Management Department, Terumo Corporation,  
44-1, 2-chome, Hatagaya, Shibuya-ku, Tokyo 151-0072, Japan

TEL:03-3374-8191 FAX:03-3374-8015 E-mail:Kankyou@terumo.co.jp

## Terumo Business Offices & Factories (as of April 1, 2000)

### **Domestic Business Offices & Factories**

Head Office (Tokyo)

Shonan Head Office (Kanagawa)

R&D Center (Kanagawa)

Kofu Factory (Yamanashi)

Ashitaka Factory (Shizuoka)

Fujinomiya Factory (Shizuoka)

Suruga Factory (Shizuoka)

38 Sales Offices

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### **International Business Offices & Factories**

Terumo Medical Corporation (U.S.A.)

Terumo Cardiovascular Systems Corporation (U.S.A.)

Terumo Europe N.V. (Belgium)

Terumo Medical Products (Hangzhou) Co., Ltd. (China)

Changchun Terumo Medical Products Co., Ltd. (China)

Terumo Penpol Limited (India)

Terumo (Philippines) Corporation (Philippines)

28 Sales Office

