Message from the President

With ever increasing certainty, the preservation of the global environment has become a driving force behind all economic activities. The alcoholic beverage industry in particular sustains its business activities through various benefits received from nature. These benefits should not be thought of as freely given by nature, but rather as an investment made by the Earth. If the benefits from the Earth are thought of as investments, then a responsibility to effectively use the investment and to earn a profit is born.

Environmental activities such as energy and resource conservation can be called effective use of this investment from the earth. Furthermore, social contribution activities such as nature preservation efforts can be viewed as a profitable return on the earth's investment. Based on this philosophy, we have pursued our "Green Ink" accounting activities since 1998.

All of our factories have obtained the ISO 14001 certification as of April 2001, and we have established the goal of having all branch sales offices obtain certification during fiscal 2001. Furthermore, our Zero Emissions activities, which target 100% recycling of factory wastes, reached the 98% level during fiscal 2000, and we are aiming for over 99% during fiscal 2001. In addition, we have acknowledged the container and packing recycling problem as an important social responsibility of a manufacturer of alcoholic beverages. Thus, while enacting "upstream" policies for product development, we have been actively seeking the involvement of the consumer in the recycling problem by opening up communication with the public and the government. We are also undertaking global warming prevention policies, setting long-term environmental goals (p 2) and promoting coordinated activities. The results of these activities are reported to society in the easy-to-understand format of our Green Accounting Report, and the fact that our environmental activities are being monitored by you, the public, is a major source of our efforts to promote environmental activities.

The Green Accounting Report was established with the idea that the calculation method and data range would be revised as necessary after three years. This year's report will bring the first Green Accounting term to a close. The suggestions received by you about the last three years of our green accounting activities will be incorporated in the new term beginning next year. We hope that you continue to grace us with your opinions and criticisms.

President, Takara Shuzo Co. Ltd.

H. Ohmiya

Takara Shuzo Corporate Philosophy (established September 1985, revised April 2001)

Through our fermentation technology and biotechnology, we will contribute to healthy lifestyles and the creation of active society in harmony with nature.

Basic Philosophy of Environmental Activities (established September 1999)

Production activities essentially place a burden on the Earth. We take this reality seriously. We make efforts to contribute to environmental protection by lowering the impacts from our production activities, and make efforts to contribute to society by diverting business profits to conservation activities. We perceive these two efforts as obligations stemming from business activities, and promote environmental activities accordingly.

Environmental Action Goals (established September 1999)

- Target the coexistence of the economic responsibility of corporate activities (responsibility toward investments) and social responsibility (responsibility toward the environment).
- Offer a new value system in which customer satisfaction and social satisfaction coexist.
- Starting from the position that "the global environment is an asset of all of society," report to society the impact of production activities on the global environment and open up dialogue with society on environmental problems. (Disclosure of Environmental Information)
- To work toward development of new products and marketing methods that offer consumers new values while suppressing environmental impact. (Development of Environmental Marketing)
- Design applications for resolving environmental problems with newly developed technologies.
- Connect our future corporate competitiveness to prompt implementation of environmental policies, anticipating future change and expansion of environmental problems.

Corporate Profile (as of March 31, 2001)

Established 1925.
Capital: 13.2 billion yen.
Employees: 1,926.
Sales: 174.983 billion yen (non-consolidated), 184.886 billion (consolidated).
Operating profit: 9.921 billion yen (non-consolidated), 11.297 billion yen (consolidated).
Percentage of sales by business division: alcoholic beverages, 73.8%; foods, 18.5%; spirits, 1.4%; bio, 6.1%; other, 0.2%.
Domestic operations: Headquarters; branches: 15; research centers: 3; factories: 8; storage, distribution centers: 3.

Editorial Stance of "Green Ink Accounting Report 2001"

This report introduces the environmental impacts that Takara Shuzo generates and the efforts it makes to lessen those impacts, and is aimed at all consumers and citizens. Detailed information is available on our web site.

Corporate units surveyed : Takara Shuzo as a whole (domestic only)

Period surveyed : April 2000 to March 2001. Years are noted for information from other periods.

Scope of environmental impact and accounting data :

Food and alcoholic beverage business divisions (bio business division data is not included).

For the products of consigned production (accounting for 12% of the total sales value of food and alcoholic beverages), environmental impact data begins at the point Takara takes delivery of the products, covering containers and distribution.

This report is prepared in accordance with the Environment Ministry's Environmental Reporting Guidelines (FY 2000).

Publisher : Takara Shuzo Co., Ltd., September 2001

Opinions or questions regarding this report can be sent to :

e-mail : eco@takara.co.jp

homepage : http://www.takara.co.jp

Comments on this report by the environmental non-profit organization Climate Network are posted on our web site.

Next printing: Abstract, June 2002; Report: September 2002.

Current Environmental Targets and Achievement

Category	Environmental Impact Reduction Green Ink (ignoring changes in production)	100% recycling of factory waste	ISO 14001 certification for all workplaces	CO_2 reduction in the production division	Promoting energy conservation in the Distilling division
Target	Increase of 5 ECO or more per year	Attainment by fiscal 2002	All departments certified by fiscal 2002	A 6% reduction from 1990 levels by fiscal 2001 (per 1 kl of product)	A 33% reduction from 1997 levels by fiscal 2001 (per 1 kl of alcohol product)
Fiscal 2000 Results	Increase of 10 ECO over 1999	98.2% recycle rate	Certification of seven factories, Tokyo Site, Technology and Supply Division at Headquarters	69.7kg-c/kℓ 17% reduction from 1990 levels (83.6 kg-c/kℓ)	208.8ℓ/kℓ-Alc 27% reduction from 1997 levels (284.8 l/kℓ-Alc)
Future Plans	Increase of 5 ECO or more by fiscal 2001	Over 99% recycle rate for fiscal 2001	2001 : All branch offices and one factory. 2002 : Headquarters Research Center	Over 17% reduction from 1990 levels in fiscal 2001	Over 33% reduction from fiscal 1997 levels in fiscal 2001

* Note: CO_2 statistics are for emissions from fuel, power, incineration, fermentation, malting, waste water, and production.

New Environmental Targets (Fiscal 2001 - Fiscal 2004) Established September 2001

Category	Energy conservation promotion in the Production Department	Water use reduction in the Production Department	Reduction of greenhouse gases (CO_2) in the Production Department *2	100% recycling of factory waste	Development of eco products
Target	8% reduction from fiscal 2000 levels (106 l-crude oil/kl) in fiscal 2004 *1	9% reduction from fiscal 2000 levels (18.5m3/kl) in fiscal 2004 *1	13% reduction from fiscal 2000 levels (64.3 kg-c/kl) in fiscal 2004 *1 *3	100% recycle rate from fiscal 2002	Development of at least 1 new product each year that is environmentally considerate

*1. Per kℓ of production
*2. CO_2 statistics are for emissions from fuel, power, and incineration
*3. 28% reduction from fiscal 1990 (78.2kg-c/kℓ)

Other Environmental Activity Goals

- Promotion of the distribution efficiency, resource conservation, energy conservation, and prevention of global warming
- Promotion of development of environmentally considerate products; container and packaging recycling
- Promotion of green procurement, green purchasing
- Promotion of environmental communication
- Promotion of social contribution activities
- Promotion of corporate-wide environmental education
- Developing tools and social applications for environmental accounting

Fiscal 2000 Green Ink Accounting Report (April 2000 - March 2001)

	Procured from the Environment					Released into the Environment					
	raw material procurement		resource and energy procurement			atmospheric emissions, effluent				factory waste	packaging and container waste
	raw materials	virgin materials, packaging	water	electricity	fuel	waste water	CO_2	NOx	SOx	waste not recycled during production	waste not recycled after consumption
FY 2000	109	20,208	5,946	36,917	24,213	4,913	47,771	236	156	170	19,971
FY 1999	110	23,700	6,168	37,262	25,000	5,121	48,348	255	148	315	26,900
FY 1998	106	27,600	6,818	34,581	25,400	5,788	47,058	245	142	1,950	28,600
FY 1997	110	35,600	7,251	33,238	27,800	5,833	50,622	290	169	16,462	36,600
(units)	1000t	t	1000m^3	1000kwh	kl	1000m^3	t-c	t	t	t	t
2000/1997 (%)	99.1%	56.8%	82.0%	111.1%	87.1%	84.2%	84.4%	81.4%	92.3%	1.0%	54.1%
(1) Improvement (%)	0.9	43.2	18.0	-11.1	12.9	15.8	5.6	18.6	7.7	99.0	45.9
(2) Assigned Weight	1	4	1	3	3	1	3	2	2	5	4
(3) Weighted Value*	0.33	1.33	0.33	1.00	1.00	0.33	1.00	0.67	0.67	1.67	1.33
(1) x (3) ECO values for categories	0.3	57.6	6.0	-11.1	12.9	5.3	5.6	12.4	5.4	165.0	61.2

Average of (1) x (3) 29.1

*Weighted Value = Assigned Weight in (2) divided by 3 (central value in five-step weights)

(Note: FY 2000 production is 5% higher than FY 1997. As increases in production equate to lower ECO, adjusted Green Ink is 5 higher, or +34 ECO.)

FY 2000 Environmental Impact Reduction Green Ink Indicator: +29 ECO

FY 2000 Adjusted Green Ink (see note): +34 ECO

Total Costs, Miscellaneous Costs

Related Environmental Costs (Unit: 1000 yen)

Aforementioned Activity Costs	0	1,264	12,749	0	0	31,134	15,539	11,477	113,166	~~626,680~~ ○627,226	279,008
Cost for 1 ECO	0	22	2,125	0	0	5,912	2,846	_	686	~~10,240~~ ○10,249	_

Environmental Impact Reduction Green Ink	+29 ECO
Total Environmental Cost	~~1,091,417~~ ○1,091,953
Per ECO	~~37,635~~ ○37,654
Per ECO in FY 1999	47,319

Social Contribution Green Ink

(unit: 1000 yen)	Financial Contribution	% of FY 1997	Social Contribution Green Ink
FY 1997	94,252		-
FY 1998	77,831	83	-17ECO
FY 1999	75,279	80	-20ECO
FY 2000	70,795	75	-25ECO

Analysis : Our Environmental Impact Reduction Green Ink for fiscal 2000 was +29 ECO. This is due to a large reduction in the total volume of our environmental impacts, despite a 4% increase in production over the base year. Specifically, we achieved large contributions through activities including: Energy conservation in our production division following the introduction of ISO 14001; zero-emission promotion activities in factories (achieving a 99% resource recycling rate in fiscal 2000); more efficient distribution; and an increase in our use of returnable bottles.
On the other hand, our Social Contribution Green Ink decreased again, to -25 ECO. This reflects a reduction in both the number of campaigns in which we participated, and in expenditures on individual campaigns.

Calculating "Green Ink"

<Environmental Impact Reduction Green Ink>

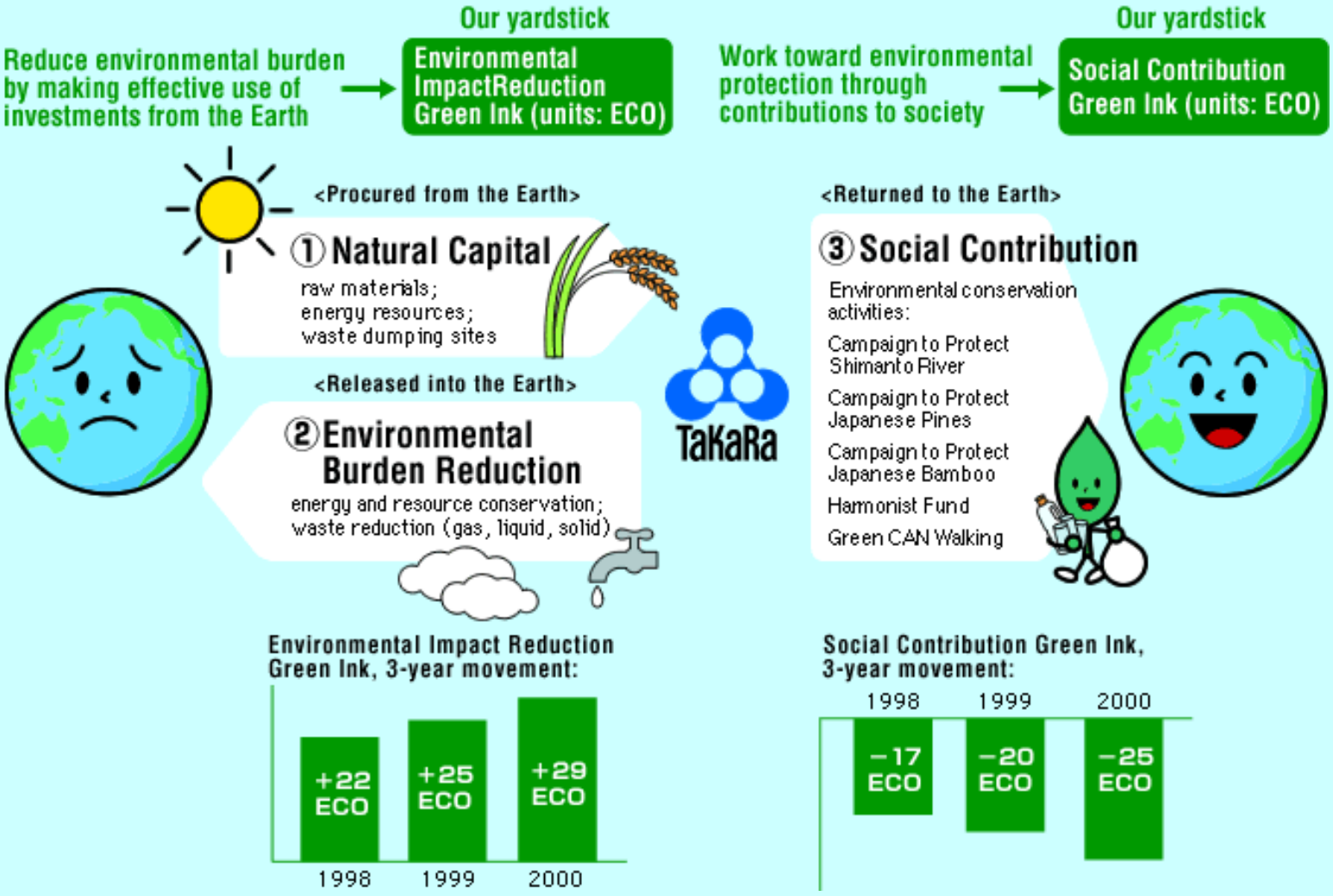
- We divide the environmental impacts of our corporate activities into 11 categories in two groups: "Procured from the Earth" and "Released into the Earth".
- We look at the results of our conservation activities in reducing environmental impact in each of the 11 categories, and compare these with our impacts in the base year of 1997 to measure a percentage improvement.
- We weight and average the percentage changes in the 11 categories, using weights assigned by internal and external environmental specialists.
- Each percentage point of improvement in the average is 1 ECO.

<Social Contribution Green Ink>

- We take expenditures on natural conservation activities (including environmental education activities), which we view as a return of profits to society, and compare with expenditures in the base year of 1997 to measure a percentage improvement.
- Each percentage point of improvement is 1 ECO.

How Takara Shuzo's "Green Accounting" Works

"Lifestyle activities place a burden on the Earth." TaKaRa responds to this reality through its "green accounting" activities, seeing the reduction of the burdens caused by lifestyle activities, and a return of profits to society through environmental preservation and other social contributions, as corporate obligations accompanying business activities.



What's "Green Ink"?

"Black ink" and "red ink" are measures of economic results, indicating the degree of the return made by a company upon the funds of its investors. But at the same time, businesses also receive "investments" from nature in the form of resources, energy, waste disposal sites, and so on. We asked what we could use as a measure of the return on this investment, and coined the term "green ink". "Green accounting" is a settlement of a business's contributions against the investment it receives from the Earth.

Why measure things in ECO units?

Under "green accounting" we evaluate the results of a wide range of environmental activities, under the comprehensive index called "ECO". The environmental burdens generated by businesses take many forms, such as energy consumption and waste discharge. It's hard to see the big picture looking at each of these data items one by one. But if a company expresses its environmental performance in a single number, its employees can readily evaluate that performance, feel closer to the issues, and take action. And releasing that number to the public

makes it easier for society to observe our activities, which spurs us to more meaningful conservation activities.

How are ECO calculated?
The key is in the weights assigned to each environmental issue. Global warming, the waste problem, acid rain, and so on can not all be treated the same. Looking at environmental impacts, we have CO2 measured as t-c, electrical power as kwh, and waste discharges as t -- units that don't simply add up and offer an average!

To line up these units, we first established a base year (initially set to fiscal 1997), allowing measurement of percentage improvements over that base. We then used methodology from LCA (life cyle assessment) impact evaluation, which assigns relative weights to individual environmental issues. Five environmental managers from within Takara and three researchers from outside the company weighed 11 environmental issues through discussions and questionnaires, ranking each on a 5-level scale indicating the importance of that issue to Takara Shuzo. The percentage changes in these 11 environmental measures are multiplied by their respective weights and averaged, with each percentage point of improvement in the average representing 1 ECO.

Why are there two numbers?
A company's contributions to the environment includes its efforts to reduce the environmental impacts resulting from corporate activities. This is activity to eliminate red ink (i.e., reduce a minus). This is our Environmental Impact Reduction Green Ink, and serves as a measure of our efficiency in making use of investments from the Earth.

A company's contributions to the environment also include activities that make a positive contribution. A good example is activities that return a portion of profits to environmental conservation or other social contributions. A company makes profits on investments that include those from the Earth, and thus must return a dividend to the Earth, as it does to any investor. We call this Social Contribution Green Ink. The two numbers together point to different ways in which we should be contributing to the environment.

3-year Summary of Green Ink Accounting

Product Planning

<FY 2000 Environmental Costs>
Costs accompanying improvements in containers are reflected in cost of containers.

Office Activities

Environmental Costs for FY 2000: 72,717,000 yen

Resource Procurement (Input)

The amount of natural resources we used in conjunction with procuring raw materials

Environmental Costs for FY 2000: 33,992,000 yen

Procurement from the Earth

Input during Production

The amount of water and energy used for production

Environmental Costs for FY 2000: 67,381,000 yen

Procurement from the Earth

Output during Production

The amount of air emissions, wastewater and solid wastes derived during production

Environmental Costs for FY 2000: 226,348,000 yen

Discharged to the Earth

Output during Distribution

Air emissions produced by product transport

Environmental Costs for FY 2000: 32,150,000 yen

Discharged to the Earth

Output during Retail and Consumption

The amount of containers discarded during retail and consumption

Environmental Costs for FY 2000: 658,829,000 yen

Discharged to the Earth

Social Contribution Activities (in the Environmental Field)

Environmental Costs for FY 2000: 70,795,000 yen

Returned to the Earth

Environmental Cost Summary

* Joint costs are distributed across categories.

Environmental Burden Reduction
Green Ink: +29 ECO
Related Costs: ~~1,091,417,000~~ yen
○1, 091, 963, 000

Social Contribution
Green Ink: -25 ECO
Related Costs: 70,795,000 yen

Total
~~1,162,212,000~~ yen
○1, 162, 758, 000

Controlling Environmental Impacts at the Source

Product Planning

By designing environmental consideration into a product during the planning stage, we are able to suppress the environmental burden of a product throughout other stages: resource procurement, production, distribution, and marketing and consumption. At Takara Shuzo, we have established "Guidelines for Development of Environmentally Considerate Products" and follow these to design environmentally friendly products.

< Environmentally Friendly Product Planning >

- **Ecology Bottle (from FY 2000)**
  We use hard-to-recycle colored bottles to make new glass bottles.

- **Returnable 720 ml Bottles (from FY 1994)**
  By washing and reusing bottles, we reduce resource usage and waste.

- **Bulk Sales of Shochu Spirits (from FY 1998)**
  Customers bring their own bottles to shops to fill with shochu spirits, reducing containers and garbage produced.

- **EcoPETE (from FY 1998)**
  PETE bottles have been made more recycle-friendly, with recycled PETE material used in handles, and easier-to-remove caps on condiment bottles.

- **EcoFrost (from FY 2000)**
  The frosted glass bottle for Zipang Shochu uses a special "Eco-frost" process that does not use harmful chemicals.

< FY 2000 Environmental Costs >

Costs accompanying improvements in containers are reflected in cost of containers.

Office Activities

Although the sales offices and main office have a lesser impact on the environment than do the factories, it is important for administrative sections to participate in environmental activities. Raising the environmental awareness of all our employees boosts the progress of environmental management. As a step in the process, we are working toward obtaining ISO 14001 certification for the administrative sections.

< ISO Certification of Administrative Sections >

Certified in FY 2000	Headquarters **:** Technology/Supply Division Tokyo Site **:** Kanto Branch Office, Tokyo Administrative Office, Alcohol Lifestyle Cultural Research Center, Alcohol Third Marketing Division, Tokyo Bio Marketing Section, Regional Distribution Division
Planned for certification in FY 2001	9 Branch Offices (all branch offices except the Kanto Branch)
Planned for certification in FY 2002	Main Office (except for the Technology/Supply Division) and Research Centers

< Reduction in Office Paper Usage, All Offices >

1998 **:** 13,855,000 sheets
1999 **:** 13,746,000 sheets
2000 **:** 13,386,000 sheets

Environmental Costs for FY 2000: 72,717,000 yen

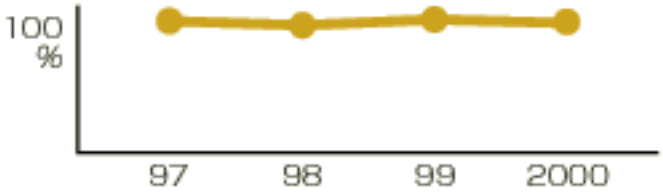
Procurement from the Earth

Resource Procurement (Input)

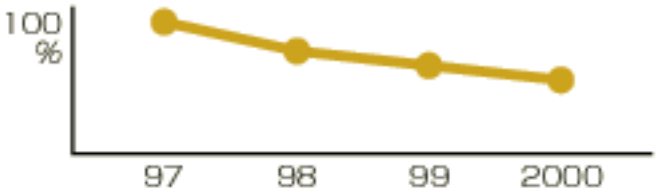
The amount of natural resources we used in conjunction with procuring raw materials

The ingredients of spirits are agricultural products, which are a reusable and renewable resource. On the other hand, the containers and packaging used for spirits are made from natural resources, and once the contents are consumed, the containers and packaging are no longer necessary and become waste. Consequently, when selecting a container, it is important to select the container that has the highest recycled material content (lowest natural resource content). For Green Ink accounting, the reduction of natural material use is an important ECO indicator. Natural resources used in containers and packaging decreased to 56.8% of 1998 levels.

< Change in Raw Material Usage >

FY 1997 <base year>	110,000 tons	
FY 1998	106,000 tons	
FY 1999	110,000 tons	
FY 2000	109,000 tons	Compared to FY 1997 **:** 99.1% **+0.3ECO**

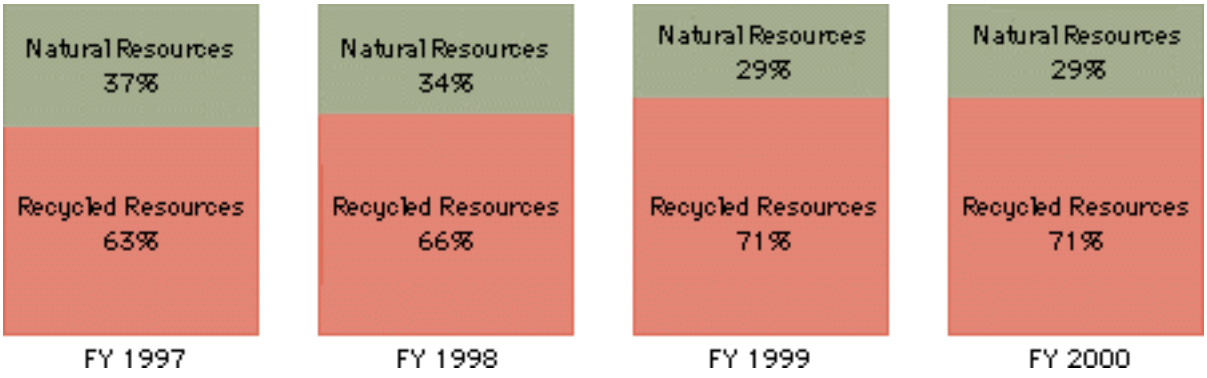
< Change in Volume of Natural Resources used in Containers and Packaging >

FY 1997	35,600 tons	
FY 1998	27,600 tons	
FY 1999	23,700 tons	
FY 2000	20,208 tons	Compared to FY 1997 **:** 56.8% **+57.6ECO**

< Recycled Content Percentages by Container Type >

Percentage of Recycled Content in Containers and Packaging				TaKaRa Container Use, Volume Comparison by Category			
FY 2000	FY 1999	FY 1998	FY 1997	FY 2000	FY 1999	FY 1998	FY 1997
78% 78% 61% 3% 0% 0% 96%	79% 79% 81% 3% 0% 0% 96%	74% 74% 60% 3% 0% 0% 84%	67% 67% 56% 3% 0% 0% 88%	Glass Bottles Returnables 26,858t 39% Disposables 18,524t 27% Aluminum Cans 4,333t 6% Steel Cans 334t 1% Paper Cartons 1,448t 2% PETE Bottles 6,281t 9% Cardboard 11,745t 16%	36% 30% 6% 2% 2% 8% 16%	37% 30% 6% 2% 2% 8% 15%	36% 33% 6% 2% 1% 7% 15%
Percentage of recycled materials in TaKaRa containers and packaging (total by weight): 71%	(Same) 71%	(Same) 66%	(Same) 63%	Total 69,523t 100%	100%	100%	100%

<Percentage of Recycled Content in Containers Used by Takara Shuzo>



< Activities >

- Promoting recycling of glass bottle cullet through the Ecology Bottle (from FY 2000)
- Reduction of new container use through returnable bottles and bulk sales (from FY 1998)
- Using recycled PETE for PETE bottle handles (from FY 1998) and gift set boxes (from

FY 1995)

- Increased recycled content in glass bottles, aluminum cans, and cardboard

Environmental Costs for FY 2000 : 33,992,000 yen

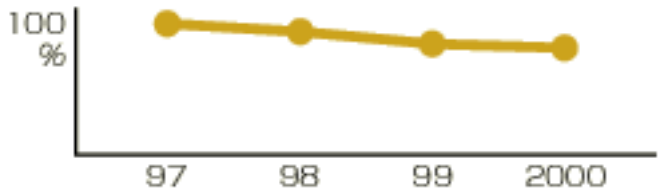
Procurement from the Earth

Input during Production

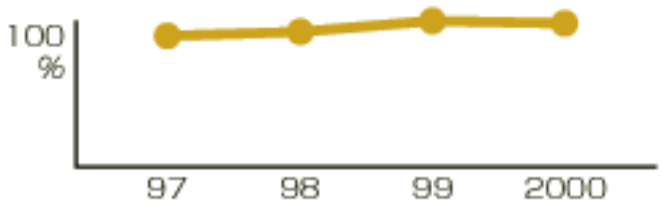
The amount of water and energy used for production

Manufacturing products uses large quantities of resources and energy from the earth. In Green Ink accounting, the water used in spirits and for cleaning and cooling, as well as the electricity and oil used as energy resources for distillation and the operation of the bottling line, are designated as green ink indicators. Water use decreased to 82% of FY 1997 levels. Electricity use increased to 111.1% of FY 1997 levels due to multi-item, low volume production and strengthening of quality management. Oil use decreased to 87.1% of FY 1997 levels due in part to energy conservation measures implemented during the distillation process.

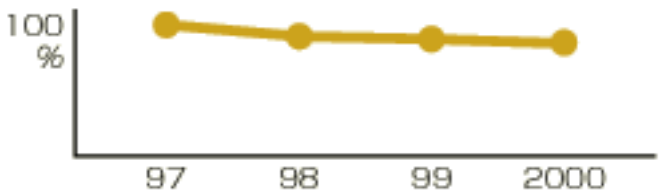
< Change in Water Use >

FY 1997	7,251,000m^3	
FY 1998	6,818,000m^3	
FY 1999	6,168,000m^3	
FY 2000	5,946,000m^3	Compared to FY 1997 : 82.0% **+6.0ECO**

< Change in Electricity Use >

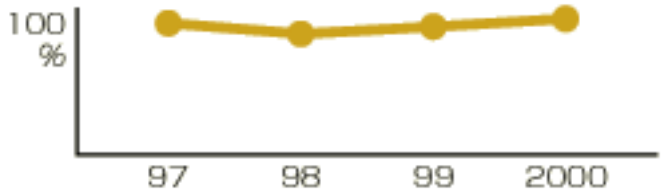
FY 1997	33,238,000 kwh	
FY 1998	34,581,000 kwh	
FY 1999	37,262,000 kwh	
FY 2000	36,917,000 kwh	Compared to FY 1997 : 111.1% **-11.1ECO**

< Change in Oil Use >

FY 1997	27,800 kℓ	
FY 1998	25,400 kℓ	
FY 1999	25,000 kℓ	
FY 2000	24,213 kℓ	Compared to FY 1997 : 87.1% **+12.9ECO**

< Change in Factory Production Volume >

< Change in Factory Production Volume >

FY 1997	307,423kℓ	
FY 1998	282,639kℓ	
FY 1999	302,047kℓ	
FY 2000	321,775kℓ	Compared to FY 1997 : 104.0%

< Specific activities >

- Reduction of water use through revisions in production procedures, and promotion of water recycling.
- Promotion of energy conservation during distillation through revisions in the alcohol distillation process.
- Energy and resource conservation in the factory through ISO 14001 certification

Factory ISO 14001 Certification Record

Sapporo Factory ,Shirakawa Factory, Nada Factory, Takanabe Factory, Shimabara Factory	March 1999
Kusunoki Factory	October 1999
Matsudo Factory	March 2000
Fushimi Factory	April 2001

Environmental Costs for FY 2000 : 67,381,000 yen

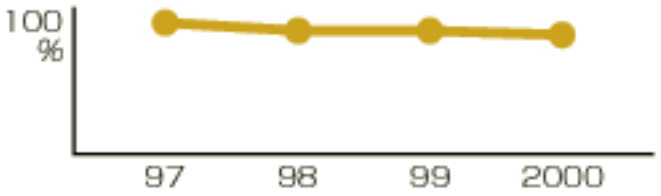
Discharged to the Earth

Output during Production

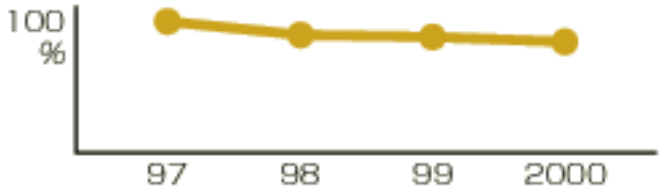
The amount of air emissions, wastewater and solid wastes derived during production

For the Green Ink accounting indicators, we use CO2, NOx, and SOx emissions for air emissions, in addition to overall totals for wastewater and factory wastes. In the production arena, our air emissions were 91.3% for CO2, 85.2% for NOx, and 95.8% for SOx, compared to the base year of 1997. Wastewater emission totals declined to 84.2% of base year levels. Finally, due to our zero emissions activities, factory wastes were down to 1% of base year levels.

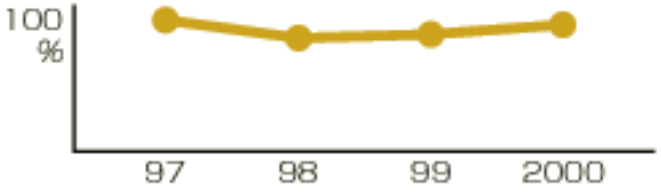
< Change in CO_2 emissions >

FY 1997	24,583 t-c	
FY 1998	23,002 t-c	
FY 1999	23,140 t-c	
FY 2000	22,436 t-c	Compared to FY 1997 : 91.3% **+8.7ECO**

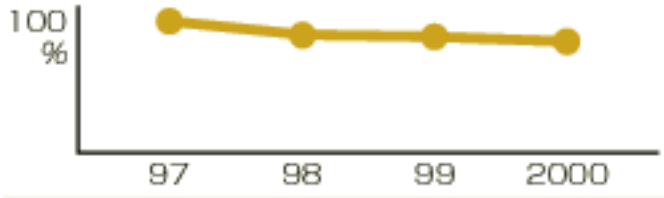
< Change in NOx emissions >

FY 1997	131 t	
FY 1998	118 t	
FY 1999	116 t	
FY 2000	111 t	Compared to FY 1997 : 85.2% **+9.9ECO**

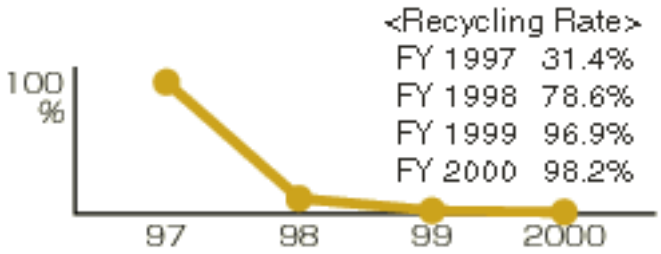
< Change in SOx emissions >

FY 1997	133 t	
FY 1998	114 t	
FY 1999	118 t	
FY 2000	128 t	Compared to FY 1997 : 95.8% **+2.8ECO**

< Change in wastewater emissions >

FY 1999	5,833,000 m^3	
FY 1998	5,788,000 m^3	
FY 1999	5,121,000 m^3	
FY 2000	4,913,000 m^3	Compared to FY 1997 : 84.2% **+5.3ECO**

< Change in factory waste emissions > *Amount not recycled/reused

FY 1997	16,462 t	
FY 1998	1,950 t	
FY 1999	315 t	
FY 2000	170 t	Compared to FY 1997 **:** 1% **+165ECO**

<Recycling Rate>

Industrial wastes	Amount (kg)		
	FY 2000		
Category	Produced	Reused	Not reused
Husks	9,500	0	9,500
Incinerated garbage	357,800	278,984	78,816
Contaminants (processed as effluents)	1,465,655	1,465,655	0
Contaminants (not processed as effluents)	776,125	742,945	33,180
Oil	26,855	9,105	17,750
Alkali	90	0	90
Plastics	254,630	236,094	18,537
Paper	564,599	561,436	3,163
Wood	313,655	312,495	1,160
Animal and plant waste	1,172,049	1,172,049	0
Metal (aluminum)	163,572	163,572	0
Metal (other)	204,466	201,663	2,803
Glass	487,528	482,974	4,554
Ceramics	301,725	301,680	45
Building materials	11,740	11,740	0
Soot	76,670	76,160	510
Spent *sake* Grain	2,084,560	2,084,560	0
Spent *mirin* grain	1,137,380	1,137,380	0
Distillation by-products	86,860	86,860	0
Spent plums	0	0	0
Spent *katsuo* (bonito)	107,766	107,766	0
Totals	9,603,225	9,433,118	170,107

< Activities >

- Energy and resource conservation in the factory based on ISO 14001
- Zero Emissions activities
- Promoting water reuse
- Introduction of natural gas-powered vehicles and forklifts

Environmental Costs for FY 2000 : 226,348,000 yen

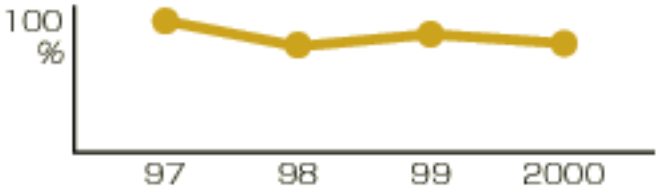
Discharged to the Earth

Output during Distribution

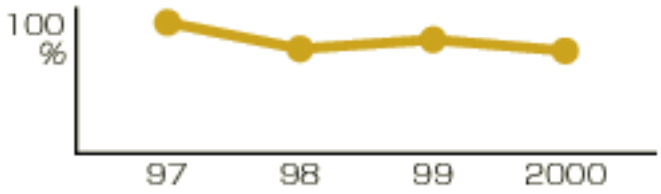
Air emissions produced by product transport

The products manufactured at our factories are delivered to the customer through a variety of means, including trucks, trains and ships. The Green Ink accounting indicators we use to track the impact of transporting our product are CO2, NOx, and SOx emissions. These are the emissions that occur during the transport (whether in-house or consigned) of our product to retail stores, combined with emissions that occur during in-house transfers. Due to more fuel-efficient delivery trucks and joint deliveries with other companies, our emissions were 83.0% for CO2, 78.4% for NOx, and 78.5% for SOx compared to levels in FY 1997.

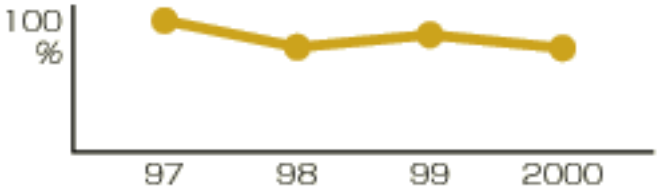
< Change in CO_2 emissions >

FY 1997	6,639 t-c	
FY 1998	5,362 t-c	
FY 1999	5,897 t-c	
FY 2000	5,512 t-c	Compared to FY 1997 : 83.0% **+17.0ECO**

< Change in NOx emissions >

FY 1997	159 t	
FY 1998	127 t	
FY 1999	138 t	
FY 2000	125 t	Compared to FY 1997 : 78.4% **-14.4ECO**

< Change in SOx emissions >

FY 1997	35 t	
FY 1998	28 t	
FY 1999	31 t	
FY 2000	28 t	Compared to FY 1997 : 78.5% **+14.3ECO**

< Activities >

- Improved self-sufficiency in in-block truck deliveries.
- Joint deliveries with other companies in the industry
- A 15% increase in fuel efficiency by having trucks run at constant speed and turn off engines when stopped
- Adoption of industry standard pallets

< Environmental Activity Goals for the Distribution Division >

EcoDrive Promotion	1. Prohibit idling of engines 2. Prohibit sudden starts and stops 3. Promote economical driving
Promoting Efficient Distribution	1. Reorganize delivery points 2. Promote joint delivery 3. Introduce the xxx system

Environmental Costs for FY 2000: 32,150,000 yen

Discharged to the Earth

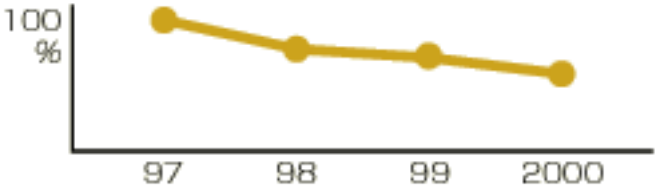
Output during Retail and Consumption

The amount of containers discarded during retail and consumption

It is said that the environmental problems caused by alcohol and other beverages are more prominent during consumption than during production. A representative problem is that of container and packaging recycling. For Green Ink accounting, the indicator of impact reduction is determined by the measured volume of containers and packaging that are incinerated or land filled instead of being recycled. During FY 2000, the volume of unrecycled packaging and containers was reduced to 54.1% of FY 1997 levels.

Furthermore, after alcohol is consumed, it is converted into CO2 and water in the body. This volume of CO2 and the CO2 used in Chuhai drinks are included in the Green Ink indicators. These have increased to 102.2% of FY 1997 levels.

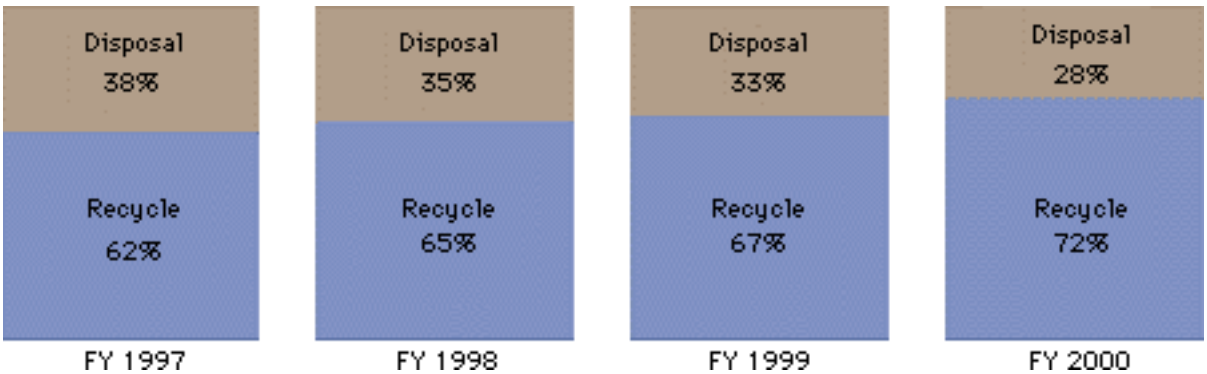
< Change in weight of containers and packaging not recycled after consumption >

FY 1997	36,600 t	
FY 1998	28,600 t	
FY 1999	26,800 t	
FY 2000	19,791 t	Compared to FY 1997 : 54.1% **+61.2ECO**

< Takara Shuzo Recycling Rates by Container Type >

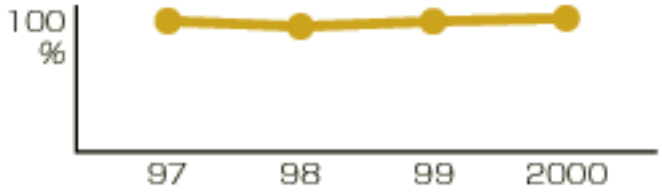
TaKaRa Container & Packaging Type, Volume, and Percentage			Recycling/Reuse Rates after Consumption			
FY 2000			FY2000	FY1999	FY1998	FY1997
Glass Bottles						
Returnable	26,858t	39%	90%	91%	89%	88%
One-Way	19,524t	27%	53%	46%	41%	39%
Aluminum cans	4,333t	6%	81%	79%	74%	73%
Steel cans	334t	1%	84%	83%	83%	80%
Paper cartons	1,448t	2%	0%	0%	0%	0%
PETE bottles	5,281t	9%	35%	23%	17%	10%
Cardboard	11,741t	16%	83%	80%	78%	74%
Total	69,523t	100%	TaKaRa recycling/ reuse rate for containers & packaging 72%	(same) 67%	(same) 65%	(same) 62%

< Takara Shuzo Container & Packaging Recycling Rates >



< CO_2 emissions during consumption >

FY 1997	19,400 t-c	
FY 1998	18,694 t-c	
FY 1999	19,311 t-c	
FY 2000	19,823 t-c	Compared to FY 1997 : 102.2% **-2.2ECO**



< Activities >

- Limiting container waste through bulk sales of shochu and promoting returnable bottles (since FY 1998)
- Improving PETE bottle recycling through the use of EcoPETE returnable bottles (since FY 1998)
- Manufacturing Eco Tiles (Crystal Clay) from used glass bottles (since FY 1993)
- Improving reuse/recycling of containers and packaging (result of industry-wide promotion)
- In-house collection of office-use containers

Environmental Costs for FY 2000: ~~658,829,000~~ yen

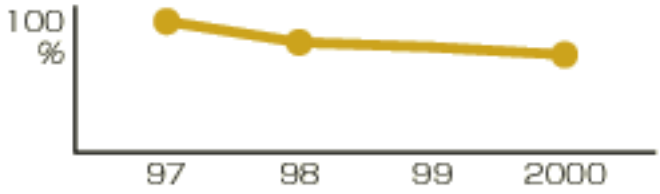
○659, 375, 000

Returned to the Earth

Social Contribution Activities (in the Environmental Field)

In addition to corporate activities to reduce environmental burden, social contribution activities such as nature conservation and environmental education are Green Ink activities through which corporations can help the Earth. For Green Ink accounting, the amount donated to these activities is the indicator. In FY 2000, we contributed a total of 70,795,000 yen, amounting to 75% of FY 1997 levels.

< Change in Social Contributions >

FY 1997	94,252,000 yen	
FY 1998	77,831,000 yen	
FY 1999	75,279,000 yen	
FY 2000	70,795,000 yen	75% of 1997 levels, or **-25ECO**

< FY2000 Supported Activities >

- Green CAN Walking (since FY 1991)

The tenth annual event was held on August 26, 2000 at Shonan Beach in Kanagawa Prefecture.

- Environmental Education Corner at the

- Campaign to Protect Shimanto River (since FY 1994)
- Campaign to Protect Japanese Pines (since FY 1982)
- Campaign to Protect Japanese Bamboo (since FY 1983)

Factory Open Event

- Recycling Display at Earth Day
- Providing recycling and environmental education information over the Internet

Environmental Costs for FY 2000: 70,795,000 yen

Green Procurement and Purchasing Activities ("Upstream" Activities)

A corporation purchases many different things to procure raw materials for products or to undertake sales and administrative activities. By giving priority to environmentally considerate materials products when purchasing, environmental impact is reduced and support of organizations promoting environmentally friendly activities is achieved.

Takara Shuzo's Activities

- Establishment of "Guidelines for Promoting the 3 R's" for containers and packaging, and efforts to reduce environmental impact of containers and packaging based on "Rules for Banned Materials", "Environmental Consideration during the Planning Stages", and "Gaining Understanding from Vendors". We also promote purchasing activities for the promotion of the 3 R's and request that our vendors used environmentally consideration as put forth by our guidelines. (3R's: Reduce, Reuse, Recycle)
- We sell some non-alcoholic drinks that are manufactured under consignment by other companies, under the product planning regulations of Takara. We request that these companies cooperate in our environmental policies to reduce impact on the environment. (About 12% of drink and food products are produced under consignment.)
- We are promoting green purchasing through the creation of a Green Purchasing Handbook for the purchase of sales promotion items and office supplies, based on ISO 14001.

* The eight offices promoting Green Purchasing spent 8.696 million yen in FY2000 for office supplies (about 45% of total office supply expenditure).

Adoption of an Environmental Management System (Company-wide Activities)

If environmental activities were simply based on establishing rules and giving orders, these activities might stop altogether. In order to prevent the halt of environmental activities in process, we promote certification under ISO 14001, international environmental management regulations that require periodic third-party audits. We are aiming for certification of all our workplaces: factories, branch and main offices, research centers, and group companies.

About ISO 14001 Certification

- Offices certified by April 2001

All Factories Certified (eight factories)
The factories established goals to prevent pollution and control the environmental impact of production and office activities at the factory, and to promote energy and resource conservation and prevention of environmental pollution.

Tokyo Site (Business and Administrative Sections) Main Office Technology and Supply Division
The sales divisions promote energy conservation, trash separation, and green purchasing for sales activities, along with promotion of the EcoDrive program and sales of environmentally friendly products.

- Future Plans: All workplaces certified by FY 2002

FY 2001 --> Nine branch offices

FY 2002 -->Headquarters, research centers, major affiliated corporations

Regarding relevant environmental laws

(1)Compliance with Relevant Laws
We have received ISO 14001 (environmental management system) certification at all of our factories. Under our environmental policy, we are committed to legal compliance with environmental laws and appropriate up-to-date management methods.

Relevant environmental laws number over 30. We engage in strict information management for all of these, and for the past five years have been involved in no violations or claims involving these laws.

1) **PRTR Law** (Law Concerning Improvement of Handling and Management of Emissions of Specified Chemical Substances)
Our company is among the businesses required to make notifications under this law. Major chemical substances affected include acetonitrile (for research use) and acetaldehyde (a byproduct of brewing alcohol).

2) **Law for Special Measures Concerning Dioxides**
As a facility falling under this law, out Takanabe plant houses an incinerator for refuse from shochu distilling. This refuse contains almost no organic chlorides, and the plant's incinerator temperature, dust collection equipment, and measurement instruments are all designed for dioxin prevention; thus there is almost no danger of dioxin emission. The plant complies with all management standards under the law, and periodically tests gas emissions and soot to confirm that these are under legal limits.

Dioxin concentration in gas emissions Legal limit: 80ng - TEQ/Nm3 Measured amount: 0.064ng - TEQ/Nm3

3) **Law for Special Measures Concerning the Promotion of Proper Treatment of PCB Wastes**
Our company has 26 electric machines using PCB (condensers, transformers, etc.), each of which is stored at the owning factory under strict management. We will make plans for proper disposal of these in accordance with the above law.

4) **Foodstuffs Recycling Law**
Our company is among the businesses affected by this law, which took effect this year. We already engage in nearly complete recycling of the food wastes specified by the law, but will make further efforts to reduce the amount of waste initially generated.

(2)Regarding soil contamination and regular testing

We regularly test groundwater for contamination, but do not regularly test soil. At the start of our activities for ISO 14001 certification, we conducted soil sampling and confirmed that there was no contamination. As we do not handle any chemical substances that could be a cause of contamination, we have not undertaken regular testing since then.

Reduction and Recycling of Container and Packaging Waste ("Downstream" Activities)

Container and packaging waste is an environmental problem that a product creates after entering society. Unlike environmental issues in the factory, this problem involves consumers and social systems, and calls for communication between the manufacturer and society.

We have set guidelines for environmentally-considerate product development

- We recognize returnable containers as having the lowest environmental impact and strive to increase their use, but their percentage is gradually decreasing on a liquid volume base.

		FY 1998	FY 1999	FY 2000
Change in percentage of returnable containers	Liquid volume base	15%	14%	13%
	Empty container weight base	37%	36%	39%

- We are working to improve one-way containers for promotion of recycling.

Conversion of PETE bottles to EcoPETE	Use of glass "Ecology Bottles" : 480 tons in FY 2000 (2.6% of one-way glass bottles by weight)

- We are working to develop new sales methods, including bulk sales, which reduce environmental impacts.

Amount of bulk sales	FY 1998 : 504kℓFY 1999 : 898kℓ FY 2000 : 867kℓ (equivalent of 320,000 2.7l PETE bottles of shochu, or 1.1%)

We apply LCA to evaluation of containers and packaging

We participate in the "Research Group for Comparing Containers by LCA Methods" and apply its findings,in order to objectively evaluate the environmental impacts of containers and packaging. One such finding is that returnable bottles are the form of container with the lowest impact when used 20 times or more. Even when used only 2.5 times, returnable bottles offer the second-lowest

energy consumption, beaten only by paper cartons.

We have introduced environmental accounting in our container recycling activities.
Through environmental accounting, we apply analysis of total costs, including recycling costs not specified under the Container and Packaging Recycling Law, and develop strategies to reduce the social costs of container and packaging waste.

		Paid under the Container and Packaging Recycling Law	Estimated cost to Takara for recycling	Total
FY 2000 environmental costs by container type (unit: 1000 yen)	Returnable bottles	0	230,245	230,245
	One-way bottles	22,142	166,361	188,503
	Aluminum cans	0	19,467	19,467
	Steel cans	0	18,027	18,027
	PETE bottles	106,052	81,158	187,210
	Paper cartons	2,152	1,392	3,544

Environmental Accounting Activities (Analysis of Environmental Activities from an Economic Viewpoint)

In addition to corporate environmental accounting, which reveals the environmental costs of the company as a whole, we also undertake "Conservation Effect Comparative Environmental Accounting". Together with green accounting, this allows us to review the cost-effectiveness of individual environmental policies.

We further undertake "Segment Environmental Accounting" to analyze the environmental cost-effectiveness of individual environmental activities, such as our package recycling activities or Zero Emission activities.

<FY 2000 Corporate Environmental Accounting>

See web site for cost breakdown
Calculation method: Environmental costs for FY 2000 were calculated as follows:

- Statistics are for Takara Shuzo as a whole, excepting the Bio Division.
- Statistics are totals of costs generated for the purpose of environmental conservation by environmental activity staff at each workplace and environment-related division staff at corporate headquarters.
- Items calculated are based on guidelines from the Environment Ministry.
- Investments and expenses not entirely for environmental purposes are reduced to 25%, 50%, or 75%.
- Investments from 1996 are amortized over 10 years and entered as expenses.
- Labor costs are derived from the percentage of time dedicated to environmental activities, times the average cost of labor.
- Environmental effects are derived only from those items whose monetary value is clearly measurable.

Environmental Conservation Cost		Investment (thousands of yen)	Expenses (thousands of yen)
(1) Environmental costs to control the environmental impact caused within the business area by production and service activities (Business Area Cost)	1) Costs for Prevention of Environmental Hazards	96,149	54,225
	2) Costs for Global Environment Conservation	121,753	24,715
	3) Costs from The Resource Cycle	25,185	135,810
	subtotal	243,087	214,750
(2) Costs to control	1) Green Purchasing		

(2) Costs to control environmental impact caused by upstream and downstream effects of production or service activities (Upstream/ Downstream Cost)	1) Green Purchasing and Procurement	0	1,264
	2) Product Recycling/Recycling Collected Resources	0	0
	3) Recycling Containers and Packaging	5,460	~~614,168~~ ○614, 714
	4) Provision of environmentally-considerate services	25,035	13,090
	subtotal	30,495	~~628,522~~
(3) Environmental Conservation Costs for management (Management Cost)	1) Cost for environmental education for staff	0	○629, 068 5,858
	2) Cost for Environmental Management organization, operation and certification	0	20,388
	3) Cost for auditing and measuring environmental impact	3,734	13,273
	4) Personnel expenses for environmental conservation measures	0	165,228
	subtotal	3,734	204,747
(4) Environmental conservation costs for research and development (Research and Development Cost)	1) Costs for research and development of products that contribute to environmental conservation	0	0
	2) Costs for research and development to control environmental impact during the production stage	3,843	2,884
	3) Other costs for environmental reduction during distribution and sales	0	18,700
	subtotal	3,843	21,584
(5) Environmental	1) Cost for nature		

(5) Environmental conservation costs for social contributions (Social Activity Cost)	1) Cost for nature protection, greenification, maintaining scenery, and environmental improvement	0	57,578	
	2) Cost for supporting local environmental activities and social efforts such as supplying information	0	12,220	
	3) Cost for supporting and contributing to environmental conservation organizations	0	1,002	
	4) Cost for environmental advertising and publicizing environmental information	0	21,809	
	subtotal	0	92,609	
(6) Costs for environmental damage (Environmental Damage Cost)	1) Restoration of polluted soil and destroyed nature	0	0	
	2) Appropriations, insurance	0	0	
	3) Reconciliation, compensation fees	0	0	
	subtotal	0	0	
TOTAL		281,159	~~1,162,212~~	○1, 162, 758

* Total investments for equipment in FY 2000 **:** 10,660,427 million yen

<Environmental Effect Accompanying Environmental Conservation> (thousands of yen)

Income from Recycling	Effects from All Energy Conservation Activities	Industrial Waste Treatment Cost Savings
40,904	101,360	11,140

Environmental Communication Activities (Dialogue with Society on Environmental Issues)

As a business undertakes environmental activities, communication with consumers, shareholders, authorities, and a variety of other external parties is vital. We feel that resolving the container and packaging recycling issue in particular requires close communication with citizens and consumers, and thus work to join with citizens' movements and exchange information.

Examples of Tie-ups with Citizens' Movements:

- Member of the Osaka Zero-Garbage Network Returnable Container Study Group
- Member of the Kyoto Municipal Waste Reduction Conference's Returnable Plastic Container Study Group
- Participated as panelist in the "Tokyo Tokoton Panel Discussion" (FY 2001) and the "National Tokoton Panel Discussion"
- Held recycling activity display for Earth Day
- Participated as panelist in the "Osaka Group to Consider Waste" symposium
- Presented environmental accounting for container recycling in the Consumer/Citizens' Section of the Waste Symposium

Earth Day 2001

Takara Shuzo's Environmental Activity Structure (as of September 2001)

Takara's environmental activity is centered about the "Eco Challenge 21" movement, a company-wide conservation project inspired by the COP3 global warming conference held in Kyoto in 1997.

Eco Challenge 21 activity organizations