

# Environmental Report 2004

Helping to Keep the Earth Beautiful Forever



<http://www.chemi-con.co.jp/>



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October, 2004  
CEM-0501-04A



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Nippon Chemi-Con Corporation



**Ikuo Uchiyama**  
President and COO  
Nippon Chemi-Con Corporation

■ **Message from the President**

**At Nippon Chemi-Con, we're all working to contribute to society and safeguard the environment.**

While the 20th century was labeled the "century of mass production and mass consumption," the 21st century might one day be called "the era of environmental preservation." As such, environmental concerns have become increasingly important. In Japan and overseas, wide-ranging efforts are being made to protect the environment, but many difficult problems still remain.

At Nippon Chemi-Con, we have been conducting a wide range of activities to reduce waste, conserve energy, control chemical substances and minimize environmental risks in accordance with our responsibility to fulfill our corporate philosophy, the "contribution to the technology with attention to environment and people." In product development, we strive to achieve a longer service life and smaller products, and ensure that the use of substances capable of generating an environmental burden are eliminated.

In issuing the Nippon Chemi-Con Environmental Report for fiscal year 2003, we would like to thank the suppliers, customers and local residents who are cooperating with our environment protection activities. We look forward to hearing your straightforward opinions regarding both our activities and this report.

■ **Nippon Chemi-Con's Environmental Policy**

**1. Corporate Philosophy**

**"Contribution to the technology with attention to environment and people"**

The Nippon Chemi-Con Group believes that conserving the global environment is one of the most important concerns facing us today. For this reason, we are making every effort to help bring about an environmentally sensitive society: that is a society with sufficient resources to ensure the health of our earth and of everybody living on it. To meet this goal, we are making a comprehensive effort to develop and utilize innovative new technologies.

**2. Environmental Policy**

Each organization in the Nippon Chemi-Con shall establish their own environmental policies in compliance with our corporate environmental policy, and conduct its conservation activities accordingly. The Nippon Chemi-Con Group:

- (1) Structures business operations at every level for conserving the global environment by all available means.
- (2) Recognizes the environmental effects of the Group's operations accurately, sets environmental goals and activity targets that are practicable from both technical and economical aspects and establishes action plans to implement continuous improvements aimed at conserving the global environment.
- (3) Observes an environmental laws, regulations, agreements, etc. and also devises and implements its own internal standards as required, so that the Group is continually motivated to meet everising performance targets.
- (4) Promotes the following in: the Group's business:
  - Energy conservation      ● Chemical substance control
  - Resource conservation    ● Waste reduction and recycling
- (5) Promotes the development and marketing of products that have a less impact on the global environment.
- (6) Educates and enlightens our entire workforce in matters concerning environmental issues in order to heighten their awareness of environmental problems and their will to participating in environmental activities.
- (7) Verifies the priority of the Group's environmental conservation performance by sufficient use of monitoring and checking functions.
- (8) Implements measures that prevent the environmental risks, such as accidents involving pollution and disasters, and maintains systems that minimize the impact of such events if they materialize.
- (9) Ensures that our staff cognizant with the conservation activities of the Group and releases to the public as much related information as possible in a constructive manner and has sufficient communication with the local community and everybody else involved.

July 1, 2003

**Ikuo Uchiyama**  
President and COO  
Nippon Chemi-Con Corporation

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## Organizations Conducting Environmental Preservation Activities

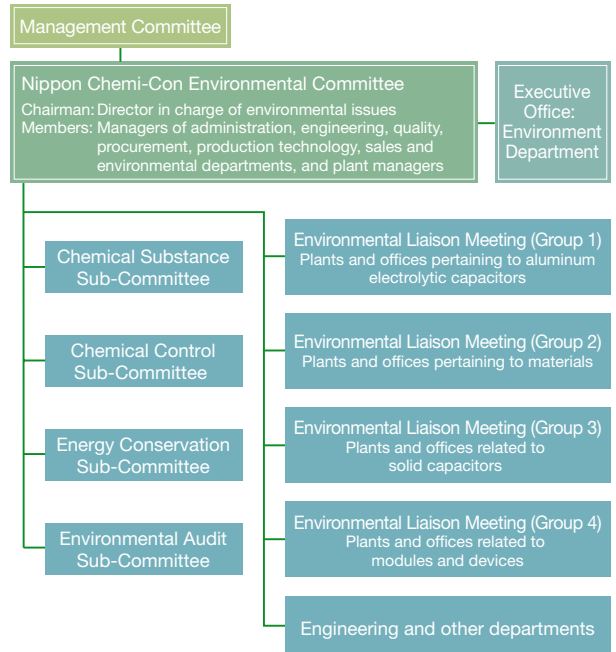
### Instilling Environmental Consciousness in Each and Every Employee

#### The creation of effective environmental preservation activities

To ensure a prompt global response to all environmental problems, the Nippon Chemi-Con Group has established the Nippon Chemi-Con Environmental Committee, which is chaired by the director in charge of environmental issues. This committee establishes company-wide policies, sets targets, and deliberates on key issues.

Four sub-committees operate under the Environmental Committee. These sub-committees examine specific topics, such as chemical substances control, chemical treatment control, and energy conservation. In addition, separate environmental liaison meetings are held regularly in connection with our four business areas in order to conduct activities and ensure follow-through on corporate environmental policy.

Moreover, the Environment Department, which coordinates and supervises company-wide environmental activities, manages and disseminates global environmental information, with the goal of involving all employees in environmental preservation activities.



## The Environmental Management System

### Promoting the Acquisition of ISO14001 Certification at All Our Domestic and Overseas Business Sites

#### Construction of EMS (Environmental Management System)

The Nippon Chemi-Con Group is working hard to obtain ISO 14001 certification at all of its domestic and overseas business sites in order to establish and adopt an effective environmental management system.

Following the acquisition of ISO 14001 certification by Singapore Chemi-Con in 1966, 22 of our business sites in Japan and overseas obtained certification.

We are now preparing two domestic and overseas operation sites, including a newly opened location, for certification approval.



ISO certification acquired by Chemi-Con (Wuxi) Co., Ltd.



ISO certification acquired by Iwate Electronics Corp.



ISO certification acquired by Yamagata Electronics Corp.

#### Overseas Affiliates

Samyoung Electronics Co., Ltd. certified on December 19, 1997

Qingdao Samyoung Electronics Co., Ltd. certified on February 27, 2001

Chemi-Con (Wuxi) Co., Ltd. certified on March 4, 2004



Chemi-Con (Wuxi) Co., Ltd.

P.T. Indonesia Chemi-Con certified on April 20, 2000

United Chemi-Con, Inc. certified on March 24, 1999

Taiwan Chemi-Con Corp. certified on May 29, 1998

Chemi-Con (Malaysia) Sdn. Bhd. certified on November 21, 2002

Singapore Chemi-Con (Pte.) Ltd. certified on December 4, 1996

#### Business Sites and Affiliates in Japan

Marcon Electronics Co., Ltd. certified on June 22, 1998

Marcon Denso Co., Ltd. certified on June 27, 2001

Yamagata Electronics Corp. certified on May 19, 2004

Niigata Plant certified on December 24, 1998

Chemi-Con Advance Business Corp. Nagaoka Factory certified on December 20, 2002



Yamagata Electronics Corp.



Iwate Electronics Corp.

Iwate Electronics Corp. certified on April 16, 2004

Chemi-Con Sealing Rubber Corp. certified on May 24, 2000

Chemi-Con Iwate Corp. certified on December 24, 1997

Chemi-Con Advance Business Corp. Iwate Factory certified on December 7, 2001

Chemi-Con Miyagi Corp. certified on October 28, 1997

Asahi Kinzoku Kogyo Co., Ltd. certified on March 19, 2001

Chemi-Con Fukushima Corp. certified on January 28, 1998

Fukushima Electrolytic Industry Corp. certified on March 27, 2002

Takahagi Plant certified on February 19, 2003

(As of July 2004)



### Environmental Efforts

## Ensuring that the Activities of All Departments of the Nippon Chemi-Con Group Run Smoothly and are Coordinated, and Involving the Stakeholders in our Environmental Efforts

#### The relationship between products and the environment

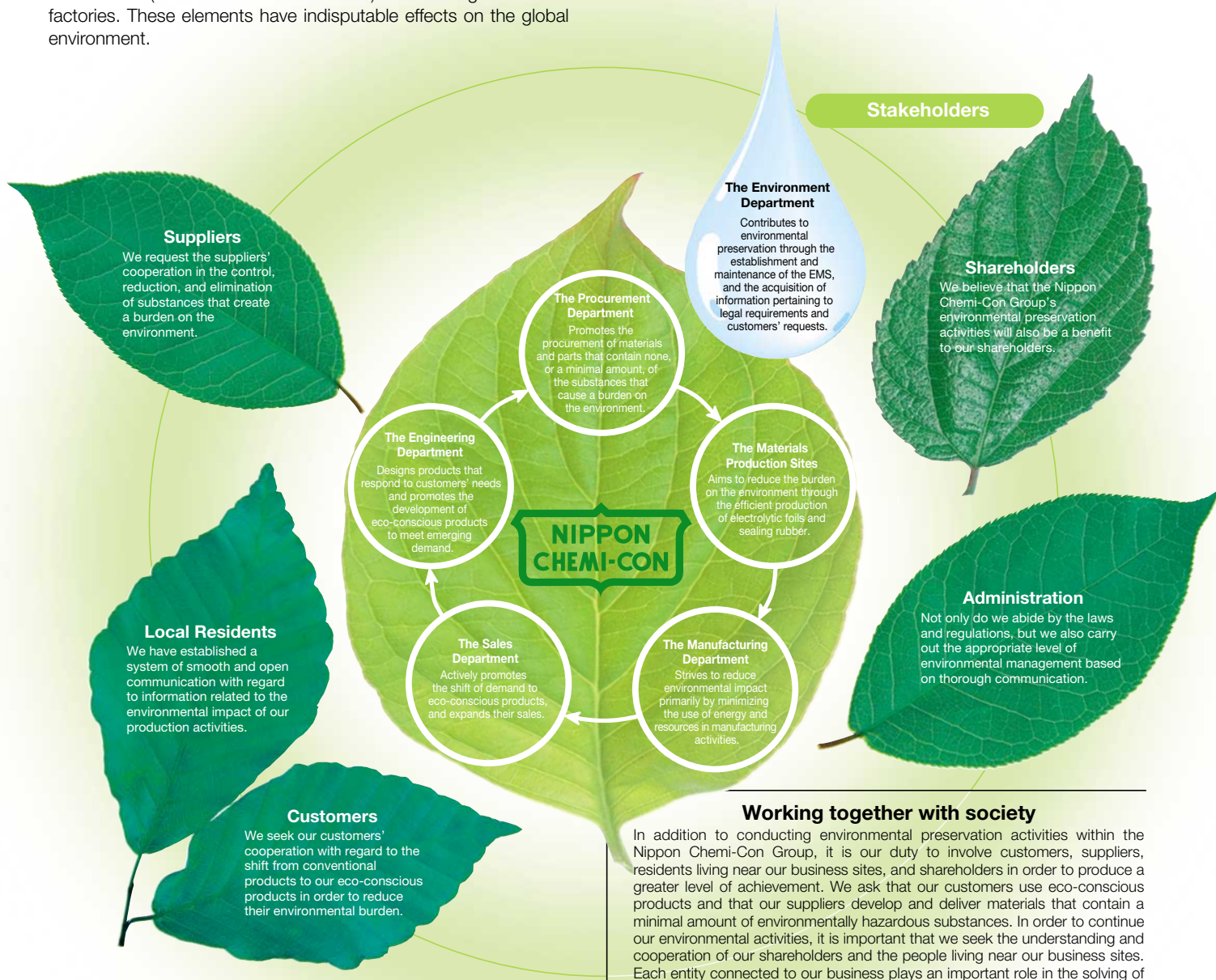
The Nippon Chemi-Con Group's mainstay products are aluminum electrolytic capacitors. They are used in consumer products such as TV sets and VCRs. These electric and electronic products use electric power for their operation. The consumption of electricity by the products results in a burden being placed on the environment. Then, when the products reach the end of their service lives, the electrolytic capacitors are disposed of together with the products, placing an additional burden on the environment.

#### The relationship between business activities and the environment

The product manufacturing process uses large amounts of water and electricity. The heat generated by the use of electricity and the waste water (after waste water treatment) are discharged from the factories. These elements have indisputable effects on the global environment.

#### The coordination of environmental activities

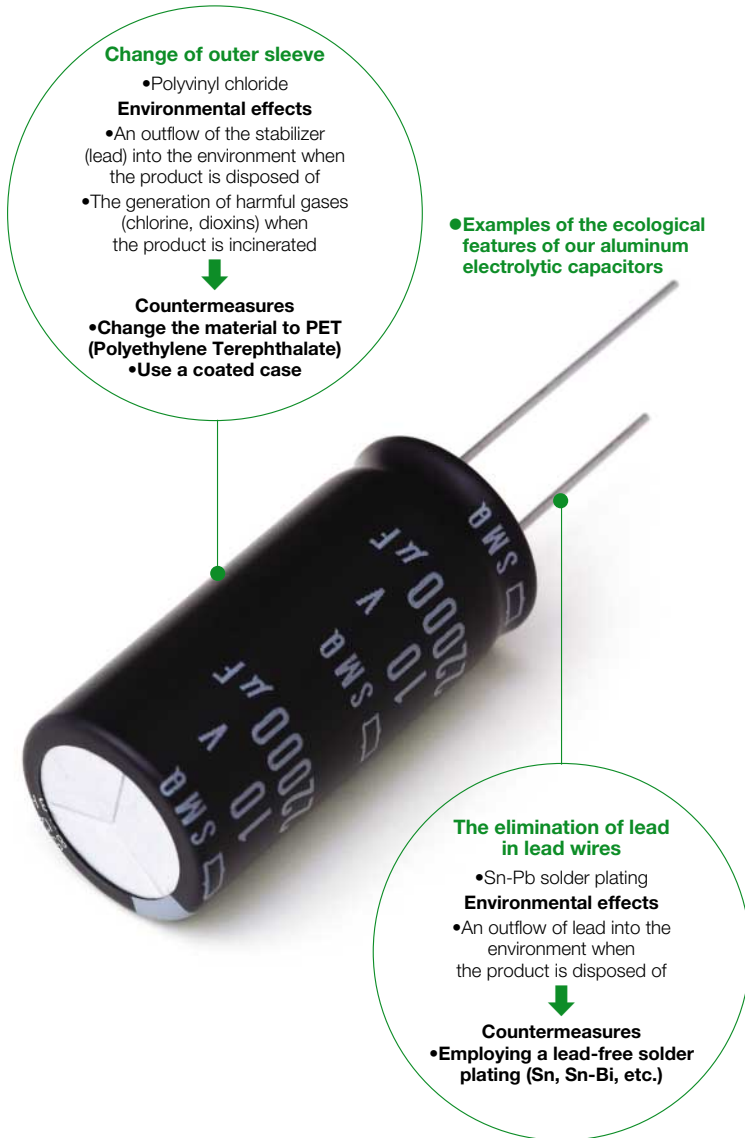
The Nippon Chemi-Con Group believes that inter-department collaboration is essential to encourage effective environmental preservation activities. Environmental activities lead to the reduction of environmental load when all departments—including the sales department providing information of the customers' demands, the design and development departments, which realize the customers' requests, the procurement department, which obtains the appropriate materials, the manufacturing department, which produces the products, and the facility department, which fabricates the manufacturing equipment—combine their efforts with regard to environmental preservation.





## The Development of Eco-Conscious Products

### Applying Advanced Technologies to the Development of Eco-Conscious Products



#### Improving the eco-consciousness of our products

Products that are distributed as a result of manufacturing activities are eventually disposed of or partially recycled after they have been used or have reached the end of their service lives. It is important to minimize the environmental burden created by products in all stages of their life cycle, ranging from their production (the reduction of energy and resources required for production) to their usage (power consumption, fuel consumption, etc.) to their disposal (preventing the outflow of harmful substances from products, an improvement to the recycling rate, etc.).

The practice of life cycle assessment (LCA) is now widely used for the evaluation of environment loads created by products throughout their entire life cycle, running from the processing of the raw material to production, transportation, usage, and disposal.

The Nippon Chemi-Con Group strives to reduce the environmental load of its products primarily by eliminating the use of hazardous substances.

In the case of aluminum electrolytic capacitors, which are our mainstay products, we are in the process of eliminating the lead content in the solder used for lead wires and replacing the polyvinyl chloride used in the sleeves with alternative materials. For lead wires, we have eschewed the practice of Sn-Pb solder plating in favor of Sn-Bi solder plating or 100% Sn solder plating. We are using PET sleeves and coated cases in lieu of polyvinyl chloride sleeves. The group has been expanding the line of eco-conscious products since it first announced a range of eco-conscious products in 1996.

Concerns about environmentally harmful substances have been on the increase in recent years. The laws and regulations have become increasingly strict in Europe, and customers have been expressing a stronger desire for eco-conscious products. In response, we have been placing an ever greater effort on the development and supply of eco-conscious products. We have already begun the mass production of eco-conscious products in order to meet customer demand. We completed the construction of a supply system for eco-conscious products on March 2004.

In addition to the reduction of hazardous substances, downsizing of products and extension of the service life contribute to a lowered environmental burden resulting from production and help to conserve resources.

#### Eco-Conscious Products

In compliance with the laws and regulations and in response to customer demand, the Nippon Chemi-Con Group is expanding its lineup of eco-conscious products.

Upon the request of customers, we can change conventional-specification aluminum electrolytic capacitors and other product series into eco-conscious models.



Surface-mount aluminum electrolytic capacitors (Also available as an eco-conscious type)



Miniature aluminum electrolytic capacitors (Also available as an eco-conscious type)



Large-capacitance aluminum electrolytic capacitors (Also available as an eco-conscious type)



PXA series conductive polymer aluminum solid capacitors (Sn-Bi solder plating)



MKA series surface-mount aluminum electrolytic capacitors (Sn-Bi solder plating)

## Environmental Preservation Activities on the Production Site

### Active Approaches to Ensure Clean Production Activities

#### Reducing the environmental load at production sites

The Nippon Chemi-Con Group uses various approaches to attaining an environmentally friendly, clean production. Our mainstay products, aluminum electrolytic capacitors, require electrical power during all stages of the manufacturing process, from the processing of materials to the final assembly determined by the characteristics of the product. In particular, the production of aluminum electrode foils, when used as the main raw material, consumes a large amount of electricity, chemicals, and industrial water, and also discharges vast amounts of industrial waste, including acid and sludge.

Although it is of course not possible to totally eliminate the consumption of electricity and chemicals and the generation of waste, even slight cutbacks will contribute to a cleaner, more stable environment. At our production sites, we are promoting a policy of energy conservation by improving the energy-saving performance, efficiency, and speed of our production facilities. We also review the production processes and materials used in order to reduce the generation of waste.



#### The reduction of energy consumption and improvement to the efficiency of the facilities

We are improving the power supply units of many machines in order to achieve better energy-saving performance. Our efforts relating to the improvement of the production yield have also paid dividends in the form of a reduction to the generation of waste.



#### The elimination of lead and polyvinyl chloride

In production processes of aluminum electrolytic capacitors, we have modified our equipment to eliminate polyvinyl chloride and lead from lead wires.

## Green Procurement and Green Purchasing

### The Production of Eco-Conscious Products Starts with the Selection of Materials and Parts

#### “Procurement” and “Purchasing”

The Nippon Chemi-Con Group regards the acquisition of materials and parts necessary for the manufacturing of products as “procurement,” while “purchasing” refers to items and services not directly related to manufacturing, such as office equipment.

Since items procured and purchased have discrete effects on products, we use different environmental management standards for procurement and purchasing.

#### Green procurement

The raw materials and parts procured by the Nippon Chemi-Con Group are processed at the manufacturing stage, and our finished products are assembled within the final products of major product manufacturers, which are then bought and used by consumers around the world. As such, it is necessary for us to have an accurate level of information with regard to the chemical substances contained in our products. In order to achieve this, we must manage the chemical contents of the raw materials delivered by our suppliers, in addition to the stages of raw material production conducted by the manufacturers of the raw material.

Our group's green procurement system is based on two key operations: the confirmation of environmental preservation activities conducted by our suppliers, and the management of chemical substances contained in the materials and parts that are delivered to us.

We procure a wide range of parts and

materials from many suppliers in order to produce our products. As such, and in order to minimize the environmental burden, we strive to reduce the number of environmental load causing substances in raw materials, while keeping in mind the important role played by the environmental preservation activities of our suppliers.

As a part of our environmental efforts, we request that each supplier submits an “environmental preservation activity report” every year in an attempt to ensure the effectiveness of their activities. In addition, we also request the submission of a report of the chemicals contained in the parts and materials supplied in accordance with the “Nippon Chemi-Con Controlled Chemicals Manual” in order to ensure a strict level of management.

We hold “green procurement” meetings regularly and post a “green procurement” page on our Website aiming at the understanding and cooperation of our suppliers.

#### Green purchasing

When we purchase office equipment and products other than the raw materials used for our products, we seek products that are environmentally friendly. For example, we have established copy paper standards involving the percentage of paper that is recycled and the whiteness of the paper, and only buy paper products that meet these standards.

Our company has produced these original guidelines based on the Law on Promoting Green Purchasing and green procurement network standards, and we will use these guidelines to promote our policy of green purchasing.



## Energy Conservation

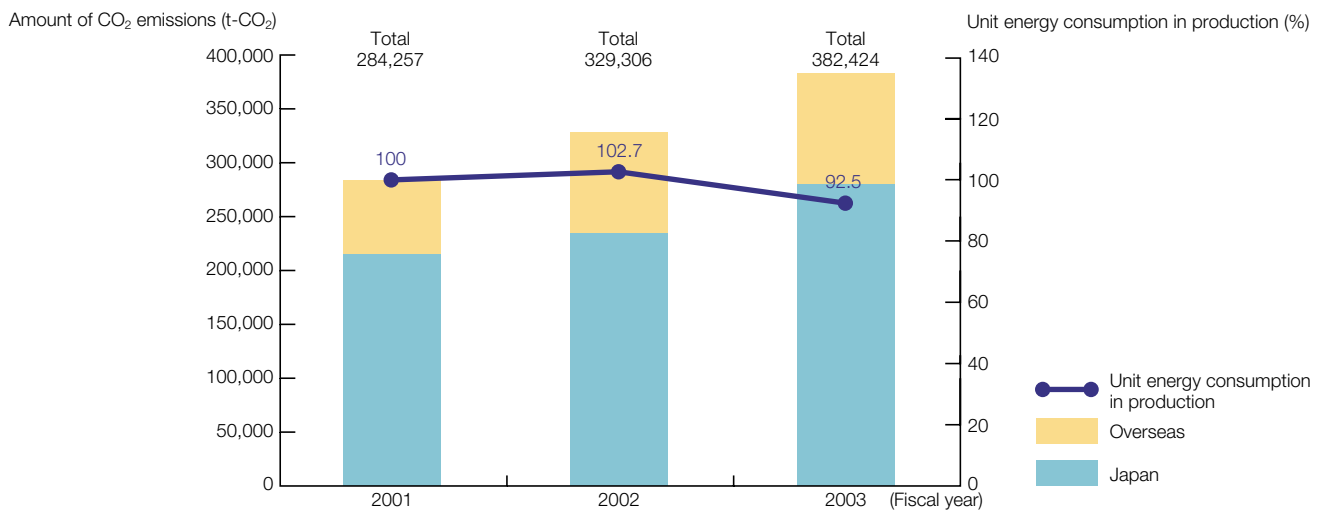
### The Daily Activities Aimed at Reducing the Level of Energy Consumption

As previously mentioned, the production of aluminum electrolytic capacitors, our mainstay products, requires a large amount of electric power. Our group consumes a volume of electric power equivalent to that of 40,000 households. As such, a reduction of even 1% of the amount of electric power consumed makes a significant difference.

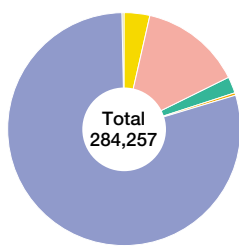
Our focus is on energy-saving activities because we believe the efforts we make toward minimizing the power consumption can contribute to a decrease in the environmental burden.

The following graphs show the amounts of energy consumed by our group, expressed by the volume of carbon dioxide emissions. In fiscal year 2003, it shows an increase of approx. 35% when compared with fiscal year 2001, as a result of expansion in businesses, but the comparison of unit energy consumption in production shows an actual decrease of approx. 7.5%.

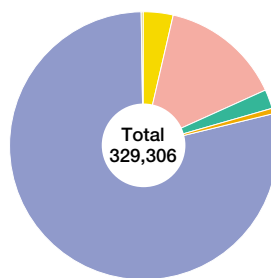
Trends in volume of carbon dioxide emissions and unit energy consumption in production of entire Nippon Chemi-Con Group



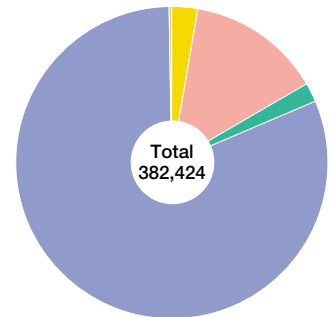
Total volume of carbon dioxide emissions and breakdown for different years (Unit: t-CO<sub>2</sub>)



Breakdown in 2001



Breakdown in 2002



Breakdown in 2003

Kerosene	10,480
Class-A heavy oil	39,817
LPG	404
City gas	5,758
Waste (oil, plastic waste)	761
Waste (paper, wood chips, etc.)	93
Electricity	226,056
Gasoline	773
Light oil	115

Kerosene	11,499
Class-A heavy oil	48,792
LPG	514
City gas	6,987
Waste (oil, plastic waste)	1,568
Waste (paper, wood chips, etc.)	38
Electricity	259,070
Gasoline	720
Light oil	118

Kerosene	10,782
Class-A heavy oil	52,759
LPG	565
City gas	7,063
Waste (oil, plastic waste)	367
Waste (paper, wood chips, etc.)	62
Electricity	310,061
Gasoline	601
Light oil	164

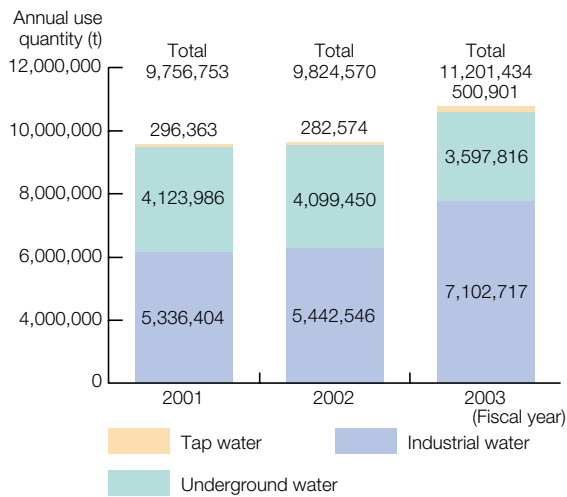
## Resource Conservation

### Promoting the Effective Use of Resources in an Effort to Preserve the Environment

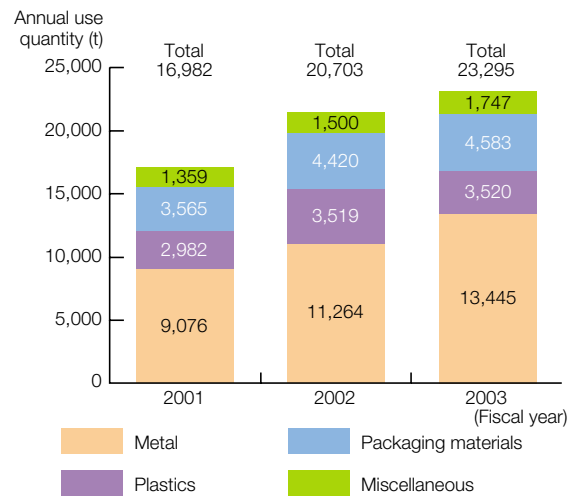
In the Nippon Chemi-Con Group's manufacturing activities, the resource that is consumed the most is water. Water is an essential element in all our lives. We are aware that we must encourage an efficient use of water, which is a natural resource important not only for humans but also for all living things on the planet. Moreover, if all

the pieces of paper our group uses each year were to be stacked on top of each other (converted to A4-size paper), the resulting tower would be about 1.5 km high! We encourage the recycling and reuse of paper, and strive to use such resources efficiently in order to contribute to the preservation of the environment.

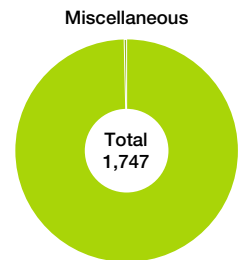
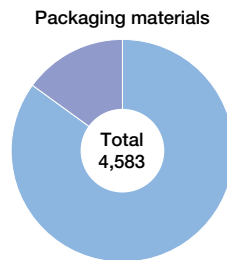
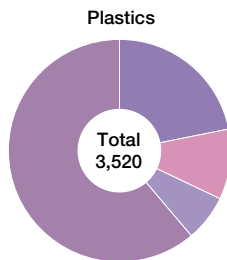
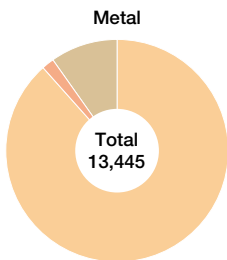
Trends in quantity of water consumed by entire Nippon Chemi-Con Group



Trends in quantity of resources consumed by entire Nippon Chemi-Con Group



Breakdown of quantity of consumed resources in 2003 (Unit: t)



Aluminum (foil, tab, etc.)  
11,906t

Non-ferrous metals other than aluminum  
236t

Iron, stainless steel  
1,303t

Polyvinyl chloride (PVC)  
775t

Thermo-plastics other than PVC  
357t

Thermosetting plastics  
240t

Rubber  
2,147t

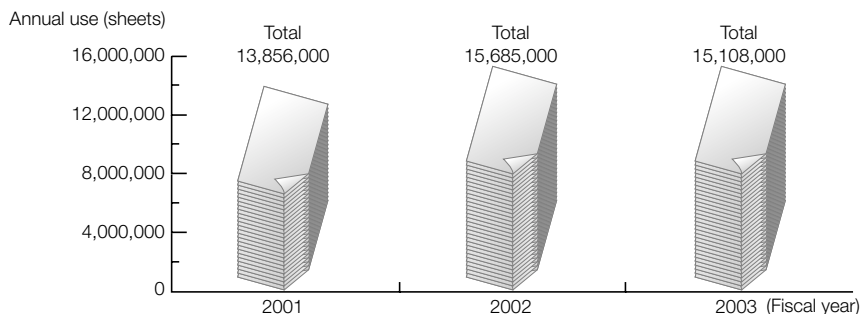
Corrugated cardboard, paper  
3,895t

Plastics  
688t

Organic materials other than those on left  
Separators, etc.  
1,741t

Inorganic materials other than those on left  
Ceramics, glass, etc.  
6t

Trends in office paper usage







### Waste Reduction and Recycling

## Adopting a Broader Vision to Promote the Reuse of Waste

When production activities consume resources, waste is generated as a by-product. The most effective way to reduce waste is to use fewer resources, but recycling and reuse can also contribute significantly to the decrease of waste generation. Recent technological advances have enabled the recovery of certain materials that could not previously be separated from waste. However, in many cases, the use of advanced technologies requires a large investment in equipment and facilities.

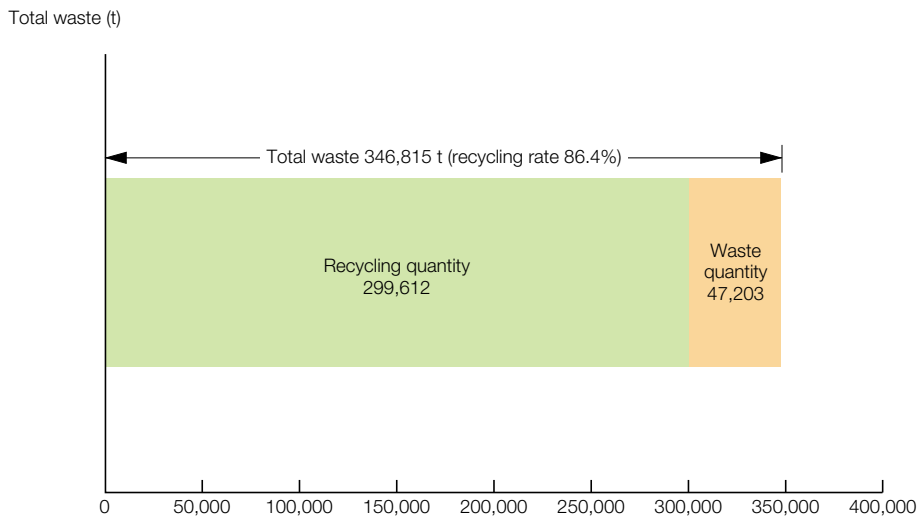
We use an environmental accounting system to evaluate the cost-effect balance and obtain accurate information on the environmental effects so that we can carry out efficient waste reducing

activities. Within the company, we promote recycling and reuse, and also strive to reuse leftover production materials, packaging materials, and other such materials.

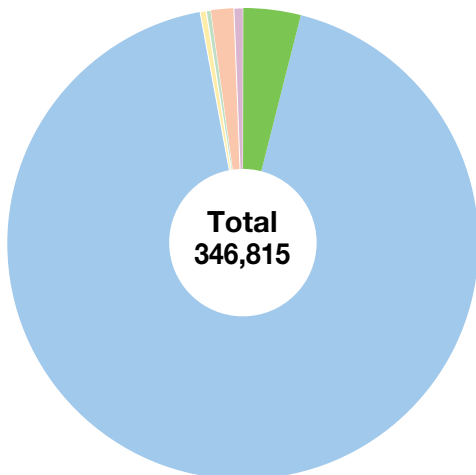
As shown in the following graphs, the recycling amount in fiscal year 2003 accounts for a large portion of total amount of waste discharged. This is because we made efforts to improve the recycling rate of acid used to electrochemically treat the aluminum foil that is the chief material of aluminum electrolytic capacitors (introduction of acid recovery equipment, etc.).

The rate of recycling that makes up the total waste of Nippon Chemi-Con Group is 86.4%.

Breakdown of recycling and disposal quantities of waste in 2003



Breakdown of wastes in 2003 (Unit: t)



Wastes in 2003	Waste quantity
Sewage	13,006
Waste oil	198
Electrolytes	374
Waste acid	323,706
Waste alkali	637
Waste plastic (inc. synthetic rubber)	1,664
Metal refuse (iron/non-iron)	5,593
Wooden, paper refuse	1,187
Incinerated ash, dirt	6.2
Living waste (wet refuse)	193
Other than the above	251

## Chemical Substances Control

# The Strict Management of Chemical Substances to Prevent Their Leakage into the Environment

### The importance of chemical substances control

The manufacturing industry uses various chemical substances in its products and during its production processes. Some chemical substances have an adverse effect on human health and the natural environment. In Japan and overseas, chemicals known to have high levels of toxicity are prohibited from use or required to come under strict management guidelines.

The regulations for chemical substances have become more

rigorous in recent years both inside and outside Japan, and conducting corporate activities in compliance with these regulations is essential. The Nippon Chemi-Con Group has also strengthened the management of chemical substances. We market products in conformity with the law and the requirements of the customer, and constantly provide information regarding the chemical substances we use in our products.

Stage	Control standard and others	Description
The purchasing of raw materials, parts, etc.	<ul style="list-style-type: none"> <li>• "Green Procurement Standards" (control of chemical substances)</li> <li>• Management standards for controlled substances used in raw materials, parts, and subsidiary materials.</li> <li>• Regulations concerning purchasing.</li> </ul>	<ul style="list-style-type: none"> <li>• We check and prevent the inflow of environmentally hazardous substances in the raw material stage by classifying controlled substances into groups of prohibited substances (19 substance groups) and notification-requiring substances (71 substance groups). We also request the necessary analysis data.</li> </ul>
The control of chemical substances within the Nippon Chemi-Con Group	<ul style="list-style-type: none"> <li>• "Chemical Substance Handling Regulations"</li> <li>• "New Chemical Substance Evaluation Procedures"</li> <li>• "PRTR Application Procedures"</li> <li>• Others</li> </ul>	<ul style="list-style-type: none"> <li>• We designate the management levels for chemical substances that are handled within the group.</li> <li>• We specify the method for evaluating chemical substances that are newly introduced into production processes.</li> <li>• We stipulate the regulations based on the PRTR Law.</li> </ul>
Response to customers and shareholders	<ul style="list-style-type: none"> <li>• "Environmental Policy" (the disclosure of information)</li> <li>• Business contracts</li> <li>• Agreements, warranties</li> </ul>	<ul style="list-style-type: none"> <li>• We present a report of the chemical substances contained in our products.</li> <li>• We provide analysis data and composition data.</li> </ul>

### Notification according to the PRTR Law

The Law Concerning Reporting, etc., of Release to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law) was established: It has been required documentation of release and transfer amounts of target chemical substances of the preceding year since 2001.

The Nippon Chemi-Con Group submitted a report on the targeted

13 business sites for 14 types of chemical substance in 2003 as shown below.

The types of chemical substance and targeted business sites increased with this year's report, since the lower limit of amounts handled changed from 5 to 1 t.

### Report of the release and transfer of specified chemicals stipulated in the PRTR Law (Fiscal year 2003) (Unit: kg)

Name of Class I designated substance	No.	Name of business site	Amount of release				Amount of transfer	
			Released into the atmosphere	Released into public water areas	Released into the soil on the site	Buried in the ground	Transferred to a sewage system	Transferred outside the business site
Antimony and its compounds	25	Marcon Electronics	0	0	0	0	0	530
Epoxy resin of bisphenol A	30	Marcon Electronics	0	0	0	0	0	1,000
Ethylene glycol	43	Chemi-Con Iwate Corp.	0	80	0	0	180	7,000
		Chemi-Con Miyagi Corp.	0	6.8	0	0	0	12,000
		Chemi-Con Fukushima Corp.	0	340	0	0	0	3,000
Silver and its water-soluble salt	64	Marcon Electronics	0	0	0	0	0	0
Cobalt and its compounds	100	Marcon Electronics	0	0	0	0	0	0
Dichloropentafluoropropane (HCFC-225)	144	Asahi Kinzoku Kogyo Co., Ltd.	1,900	0	0	0	0	0
Dichloromethane	145	Chemi-Con Advance Business Corp. Nagaoka Factory	3,300	0	0	0	0	4.6
Tetrahydromethylphthalic anhydride	202	Marcon Electronics	0	0	0	0	0	380
Toluene	227	Marcon Electronics	7,600	0	0	0	0	1,400
		Marcon Electronics	0	0	0	0	0	180
		Marcon Denso Co., Ltd.	0	0	0	0	0	0
Lead and its compounds	230	Chemi-Con Sealing Rubber Corp.	0	0	0	0	0	2,800
		Chemi-Con Iwate Corp.	0	0.65	0	0	1.4	55
		Chemi-Con Miyagi Corp.	0	1.0	0	0	0	180
p-nitrophenol	239	Chemi-Con Iwate Corp.	0	0.65	0	0	1.4	55
		Chemi-Con Miyagi Corp.	0	1.0	0	0	0	180
Hydrogen fluoride and its water-soluble salts	283	Takahagi Plant	0	1,800	0	0	0	8,800
		Niigata Plant	190	400	0	0	0	1,500
Boron and its compounds	304	Hidaka Electron Co., Ltd.	11	6,300	0	0	0	1,400
		Takahagi Plant	0	3,700	0	0	0	14,000
		Chemi-Con Iwate Corp.	0	35	0	0	30	39
		Iwate Electrolytic Industry	45	4,400	0	0	0	16
		Fukushima Electrolytic Industry	160	3,700	0	0	0	18,000
Manganese and its compounds	311	Chemi-Con Fukushima Corp.	0	45	0	0	0	24
		Marcon Electronics	0	0	0	0	0	570



## Compliance with the Law

# Recognizing Environmental Preservation as Our Important Social Responsibility

### Fulfilling our corporate responsibility to society and working toward the reduction of the burden placed on the environment

Needless to say, all companies must abide by the laws and regulations. The Nippon Chemi-Con Group understands that compliance with the environmental laws and regulations is one of the highest priorities in our environmental management activities, and conducts its auditing and monitoring accordingly.

#### List of conditions that conform to the law (domestic business sites)

The following list includes the main environmental laws and regulations applicable to the Nippon Chemi-Con Group's domestic business sites, and status of their compliance (as of July 2004).

Law/regulation	Control item, etc.	Ome office	Chemi-Con Iwate Corp.	Chemi-Con Sealing Rubber Corp.	Chemi-Con Miyagi Corp.	Chemi-Con Fukushima Corp.	Takahagi Plant	Niigata Plant	Miecon Electronics	Yamagata Electronics Corp.	Asahi Kinzoku Kogyo Co., Ltd.	Miecon Denso Co., Ltd.	Fukushima Electrolytic Industry	Iwate Electrolytic Industry	Hidaka Electron Co., Ltd.	Nichei Electronics Corp.	CAB Iwate Factory	CAB Iwateka Factory	Iwate Electronics Corp.	Notes		
Air Pollution Control Law	Specified facilities			●	●		●	●	●				●		●					●		
	Qualified persons such as pollution control managers						●	●	●				●		●							
Water Pollution Control Law	Specified facilities		●	●	●		●	●	●				●	●	●	●						
	Qualified persons such as pollution control managers		●	●	●		●	●	●				●	●	●	●						
	Oil storage facilities		▼	●	●	●	●	●	●				●	●	●						*1	
Sewerage Law		●	●							●									●	●		
Vibration Regulation Law	Specified facilities			●	●		●	●	●				●						●	●		
Noise Regulation Law	Specified facilities			●	●	●	●	●	●				●						●	●		
Offensive Order Control Law	The handling of specified materials		●			●	●	●	●				●	●					●	●		
Law Concerning the Rational Use of Energy	Designated factories	Type I (heat)					●	●	●				●	●							*2	
		Type I (electricity)		●	●									●	●	▲						
		Type II (heat)																				
		Type II (electricity)			●		●															
	Qualified persons such as energy managers		●	●	●	●	●	●	●				●	●	●							
The Waste Management and Public Cleansing Law	The release of industrial waste (unspecified controlled materials)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	The release of industrial waste (specified controlled materials)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	Qualified persons such as the managers specified to control industrial waste	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	Owners of businesses that release large amounts of waste (unspecified controlled materials)						●	●	●				●									
	Owners of businesses that release large amounts of waste (specified controlled materials)						●	●	●				●									
	Industrial waste processing facilities						●	●	●				●									
	Industrial waste processing companies						●	●	●													
	Manifesto publication record		▼	▼	○	○			○	○	○	○	○	▼	○	▼	▼	○	▼	○	*3	
The Poisonous and Deleterious Substances Control Law	Specified poisonous substances						●	●	●													
	Specified deleterious substances		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
PRTR Law	Substances mandated for reporting	○	●	●	●	●	●	●	●	○	●	●	●	●	●	○	○	○	○	○	*4	
The Industrial Safety and Health Law	Organic substance regulations, work supervisors		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	Specified substance regulations, work supervisors		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
	Lead regulations, work supervisors								●			●										
The Fire Defense Law	The storage and handling of dangerous articles		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
Law Concerning Special Measures against Dioxins	Specified facilities (incineration furnaces)																					
Law Concerning Special Measures against PCB Waste	The storage of PCB-containing articles	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		
The Factory Location Law	Applicable Factories		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		

Meaning of the symbols: ●: Complies with the law. Qualified persons, etc. are assigned as required. ■: Not applicable to the law. ✕: Does not comply with the law or regulations at the present time. Notes: \*1 ▼: The use of underground fuel tanks was discontinued in fiscal year 2003. \*2 ▲: The amount of consumed electric power has corresponded to that of a class 1 energy management designated factory since fiscal year 2003. \*3 ○: Required in some prefectures. Unnecessary (▼) for Iwate Prefecture since fiscal year 2003. \*4 ○: Regulated by the PRTR Law, but the amount handled is less than the stipulated quantity.

### Results of investigation of soil at Ome Factory based on the Tokyo Metropolitan Ordinance on Environmental Preservation and the Nature Conservation Ordinance

During the razing of Ome Factory, we performed environmental assessment based on the above ordinance, and found discharges over the environmental standard in soil and part of groundwater. We have therefore been performing the following environmental improvement from July, 2004. There was no spread of contamination outside the premises:

- Location: Higashi-Ome 1-167-1, Ome-City, Tokyo; Site area: 20,932.91 m<sup>2</sup>
- Investigation results: We carried out investigation in 136 blocks in accordance with the Tokyo Metropolitan Ordinance on Environmental Preservation and Soil Pollution Control Plan.
  - Soil: Boron (excess over standard: 42/136 blocks; maximum 120 times); Hexavalent chromium (excess over standard: 1/136 blocks; maximum 2.6 times); Arsenic (excess over standard: 1/136 blocks; maximum 4.6 times); Lead (excess over standard: 8/136 blocks; maximum 5.6 times);
  - Groundwater: Boron (on premises: excess over standard value 8/8 locations; maximum 68 times. Border of premises: 2/2 locations; less than standard value)
- Environmental improvement: Soil recovery construction is being performed, along with the razing of building.
  - Construction method: Dig through the soil in the blocks that showed excess over the environmental standard, remove them, and fill with non-contaminated soil. Pump up the contaminated groundwater, and clean it until it is less than the standard value.
  - Construction period: Approx. 9 months (July, 2004 to March, 2005, scheduled to end)

\* Details can be seen on our website: <http://www.chemi-con.co.jp>



## Environmental Accounting

# In Order to Enable the Effective and Productive Use of Management Resources for Environmental Preservation Activities

### Our basic principle of “environmental accounting”

In order to carry out environmental preservation activities, a company must allocate management resources such as personnel, goods, and money. In order to preserve the environment and observe the law, sizable amounts of management resources are sometimes required. To ensure the effective and productive use of

allocated management resources, a quantitative evaluation of the costs and results of environmental preservation activities is essential. The practice of “environmental accounting” is used as one of the methods for such assessment.

### The establishment and application of an environmental accounting system

Environmental accounting is a system that quantitatively measures and analyzes the cost and effects of environmental preservation measures, and shows the results. The cost of this method of accounting includes company expenses related to the preservation and protection of the environment. The effects, on the other hand, can be gauged as environmental preservation effects or as economic effects brought about by environmental preservation measures. The Nippon Chemi-Con uses the economic effect comparison system for calculation: We calculate the economic effects, and compare the cost and effects in terms of their monetary value.

The direct and indirect economic effects are calculated separately. Direct effects include those that are objectively calculable, such as the amount of energy saved, and the volume of waste reduced. Indirect effects are those that are difficult to measure in

terms of their monetary value, such as the enhancement of the corporate image, law-conforming performance, and the reduction of risks. The monetary value of these effects are used only internally as reference data, since they cannot be determined as objective data.

The tables below show the calculations of costs and effects for environmental preservation at the Nippon Chemi-Con main office and six major branch offices since fiscal year 2000, based on the above concept.

Environmental accounting is still being developed as a method of investigating systems, and we need to adopt it after further improving it. Nippon Chemi-Con promotes future improvements in the system and makes efforts to grasp more accurately costs/effects, and also wishes to try out devices with which the effects on environmental preservation itself can be calculated.

### Provisional environmental accounting results (Nippon Chemi-Con main office and six branch offices)

#### ●Costs

(Unit: million yen)

Item	Fiscal year 2000	Fiscal year 2001	Fiscal year 2002	Fiscal year 2003
Investment and measures evaluated	65 cases	52 cases	50 cases	49 cases
Total amount of investment for evaluated cases	1,264	1,174	938	279
Environment-related amount of the above investment	261	214	240	101
Cost in the fiscal year (A)	46	72	34	18
Normal management cost (B)	634	732	751	777
Total (A) + (B)	680	804	785	795

#### ●Effects (direct effects convertible to monetary amounts)

(Unit: million yen)

Item	Fiscal year 2000	Fiscal year 2001	Fiscal year 2002	Fiscal year 2003
Energy conservation	19.02	6.11	21.88	32.20
Resource conservation	9.89	49.89	16.36	36.92
Waste reduction, recycling	6.41	4.39	10.50	4.46
Hazardous substance reduction	0.45	0	0	0
Others	0.08	0.40	2.43	0
Total	35.85	60.79	51.17	73.57

### The analysis of the calculation results

For the purpose of our evaluation, we extracted the portion of the investment in facilities and equipment and implemented measures which were thought to have resulted in environmental preservation effects. With regard to the investment in facilities and equipment, we estimated the monetary amounts by using coefficients and percentage factors, calculated the annual depreciation expenses by means of a year-on-year comparison, and added the auxiliary expenses incurred in producing those improvements. We then determined the “total environmental cost in the fiscal year.” In contrast, the effects that can be converted into a monetary value

(defined as “direct effects”) are calculated and indicated as “energy conservation,” “resource conservation,” and other such conservation categories.

We evaluated 49 investments and action plans in fiscal year 2003. The cost of investment in environmental preservation decreased when compared with the previous year, but the effects increased for energy- and resource-saving aspects. The introduction of investment in production equipment with higher energy efficiency and recycling of sludge yielded good results.

## Raising the Standards of Environmental Awareness and Education Doing Our Best to Protect the Environment

In order to promote effective environmental preservation activities it is important to raise the employee's awareness of the environment. To that end, a process of continuous and repeated education is necessary.

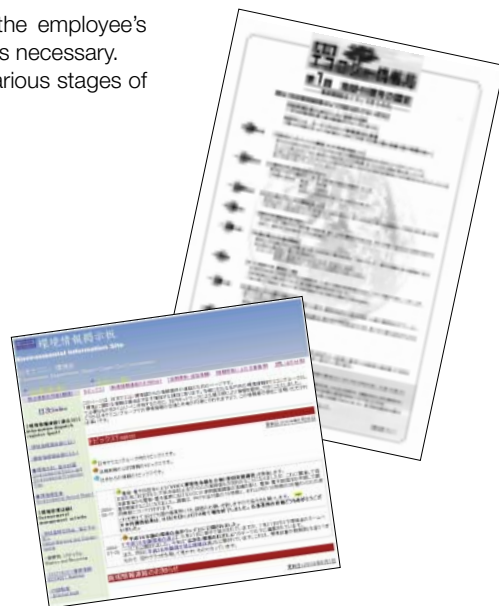
The Nippon Chemi-Con Group raises employees' awareness and provides education at various stages of the employees' employment.

### Awareness raising

As part of its awareness-raising activities, the company publishes a monthly newsletter that includes an "Ecology Information Center" environmental article that discusses various global environmental problems and the environmental activities of the company. We have also established an environmental information BBS on our homepage and are transmitting information on the latest environmental movements, etc.

### Education

Our group provides regular education to employees to deepen their understanding of environmental issues. All new employees undergo a process of environmental training to learn about our environmental policy, the trends of laws and regulations in countries around the world, and the requirements of the customer. At our production sites, we provide education and training related to ISO14001.



## Environmental Communication with Local Residents Strengthening the Relationship between Our Business Sites and the Local Community

The domestic production facilities of the Nippon Chemi-Con Group are located mainly in the Tohoku region and include such prefectures as Iwate, Miyagi, Fukushima, Yamagata, Ibaraki, and Niigata. Close communication with local communities is vital to enable the smooth and continuous production operations of these plants. Our company actively conducts environmental activities, such as environment cleaning campaigns and environmental-related events.

### Nichiei Electronics Corp.

Employees participated as "Environment Cleanup Volunteers" (to clean company adjacent areas)



### Chemi-Con Sealing Rubber Corp.

30 employees participated as "Environment Cleanup Volunteers" (to clean street gutters)



### Fukushima Electrolytic Industry

A total of 50 employees and their families participated in a "Health-promoting Eco Walk"



### Hidaka Electron Co., Ltd.

Employees and their families participated as "Environment Cleanup Volunteers" (to weed school roads and banks, and pick up trash)



## A Word from the Chairman of the Environmental Committee

The Nippon Chemi-Con Group acquired certification of ISO 14001—the international standard of environment management—at 22 of our business sites, and we have been operating the EMS (Environment Management System) for nine years. The activities and responsibility for environmental preservation demanded for contemporary corporations cover even “product environmental assurance”—the typical example is EU legal requirements—in addition to “reduction in the level of emissions to environment.” We are entering an age when the production and sales activities of corporations will be impossible without environmental preservation activities.

In this social situation, we are seeking the ideal attitude as a vibrant corporation: We quickly and positively respond to changes, taking literally the concept that the 21st century will be the “century of the environment.”

Our environmental preservation activities absolutely require the understanding and cooperation of customers, suppliers and all.

We hope that people will understand the ideas and activities introduced in this environmental report and cooperate with us. Anticipating such understanding and cooperation, we are aiming at more intensive environmental preservation activities and making efforts for a better global environment. We are looking forward to hearing your frank opinions on this report.

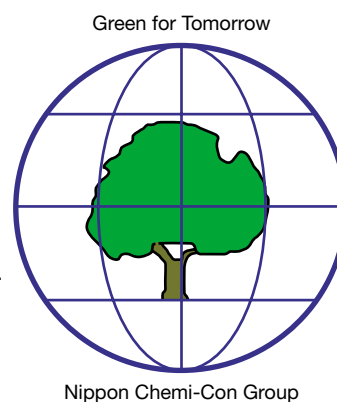


**Satoshi Kikuchi**

Director  
(Chairman of Environmental Committee)  
Nippon Chemi-Con Corporation

### Company Outline

Company name:	Nippon Chemi-Con Corporation
Main office location:	5-6-4, Osaki, Shinagawa-ku, Tokyo
Representatives:	Hikokichi Tokiwa, Chairman and CEO Ikuo Uchiyama, President and COO
Date of foundation:	1931
Domestic business sites:	3 main facilities, 13 offices, and 18 subsidiaries
Overseas business sites:	15 locations in 9 countries
Business line:	The manufacture and sale of aluminum electrolytic and other capacitors, precision parts, and electronic equipment.
Number of employees:	802
Capital:	15,750 million yen



#### A note on the design of this publication

“We are aiming to coexist with nature while keeping up with an electronics industry that is constantly being diversified and upgraded.” Based on this concept, the cover of this report features an insect using an eco-friendly electrolytic capacitor (with lead-free leads and PET outer sleeve specifications) manufactured by the Nippon Chemi-Con Group.

#### A word from the editor

We devised the layout and design of this report and used data that are more accurate than those of last year, in order to show how our business activities and environmental preservation activities interact with society in an easily understood manner.

#### Contact Offices Relating to This Report

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Please visit our Website to learn more about our company's business activities, financial data, environmental activities, and other company-related issues.  
<http://www.chemi-con.co.jp/>