Environmental Report 2003

Helping to Keep the Earth Beautiful Forever

NIPPON CHEMI-CON

Nippon Chemi-Con Corporation

Maximizing Advanced Technologies to Enables the Harmonious Coexistence of Create a Future that People and the Environment

The Nippon Chemi-Con Group is committed to its corporate philosophy aimed at contribution to the technology with attention to environment and people.

Since Nippon Chemi-Con Corporation began operations and introduced aluminum electrolytic capacitors as its first product, the company has contributed to bringing diversified and advanced developments to the electronic industry. At the same time, the company has been actively conducting environmental preservation activities, including the construction of an environmental management system and the development of eco-conscious products.

As a manufacturer of products that are acclaimed worldwide, we realize the importance of protecting the environment around us. Nippon Chemi-Con remains committed to the preservation of the global environment.

C O N T E N T S

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.

This Nippon Chemi-Con Environmental Report introduces the group's environmental activities and achievements for fiscal year 2002. We will continue to provide detailed information regarding our environmental activities in an effort to make a positive contribution to society.

We look forward to hearing your thoughts and opinions regarding our activities and this report.

Ikuo Uchiyama
President and COO
Nippon Chemi-Con Corporation

This environmental policy applies to all organizations of the Nippon Chemi-Con Group that engage in environmental conservation.

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 ever-rising 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

Part 1
Environmental Management

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, anti-pollution measures, and energy conservation. In addition, separate environmental liaison meetings are held in connection with our three business areas in order to conduct activities and ensure the corporate environmental policy is followed through.

Moreover, the Environment Department was formed in September 2002 to coordinate and supervise company-wide environmental activities. The department manages and disseminates global environmental information, thus involving all employees in environmental preservation activities.

Management Committee

Nippon Chemi-Con Environmental Committee
Functions: The committee chairman, who is the director in charge of environmental issues, and the committee members consisting of leaders in charge of various corporate operations such as administration, engineering, quality, procurement, production sites, sales, and the environment, examine the Nippon Chemi-Con Group's environmental policy and activities in view of domestic and overseas environmental laws and regulations, customers' requests, and social trends. The committee also promulgates environmental information and reports issues of importance to the management when deemed necessary.

- **Chemical Substance Sub-Committee**
  Functions: This sub-committee establishes and maintains a chemical substances control system, provides technical support, and examines methods to reduce or eliminate the use of substances that can place a burden on the environment.
- **Pollution Prevention Sub-Committee**
  Functions: This sub-committee collects information regarding anti-pollution and other environmental regulations, examines technical issues, and supports pollution prevention activities.
- **Energy Conservation Sub-Committee**
  Functions: This sub-committee establishes and deliberates corporate energy-saving measures, and conducts support activities for plants and other business sites.
- **Environmental Audit Sub-Committee**
  Functions: This sub-committee controls the group's environmental audits, certifies and registers internal auditors, provides education, and improves the audit system.

- Executive Office: Environment Department
- Environmental Liaison Meeting (Group 1)
  - Plants and offices pertaining to aluminum electrolytic capacitors
- Environmental Liaison Meeting (Group 2)
  - Plants and offices pertaining to materials
- Environmental Liaison Meeting (Group 3)
  - Plants and offices pertaining to solid capacitors/module and devices
- Engineering and other departments

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 ISO14001 certification at all of its domestic and overseas business sites in order to establish and operate an effective environmental management system.

Following the acquisition of ISO14001 certification by Singapore Chemi-Con in 1996, 19 of our business sites in Japan and overseas had obtained certification.

In fiscal year 2003, we are preparing three domestic and overseas operation sites, including a newly opened location, for certification approval.

Environmental audit

In order to confirm the effectiveness of the environmental management system, we conduct an internal audit at each business site. The internal audit not only checks the environmental department of the organization being audited, but also involves the internal auditors of other departments in order to ensure the objectivity of the audit. We are also focusing our efforts on increasing the number of internal audit staff and improving the skills necessary for effective auditing.

ISO certification obtained by Singapore Chemi-Con (Pte.) Ltd.


ISO certification obtained by Chemi-Con Miyagi Corp.

Overseas Affiliates

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

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

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

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

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


Taiwan Chemi-Con Corp.

Singapore Chemi-Con (Pte.) Ltd.


P.T. Indonesia Chemi-Con

Business Sites and Affiliates in Japan


Niigata Plant


Marcon Electronics Co., Ltd.

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

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

Niigata Plant
certified on December 24, 1998

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

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


Chemi-Con Iwate Corp.


Chemi-Con Sealing Rubber Corp.


Chemi-Con Miyagi Corp.


Takahagi Plant


Chemi-Con Fukushima Corp.

(As of October 2003)

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

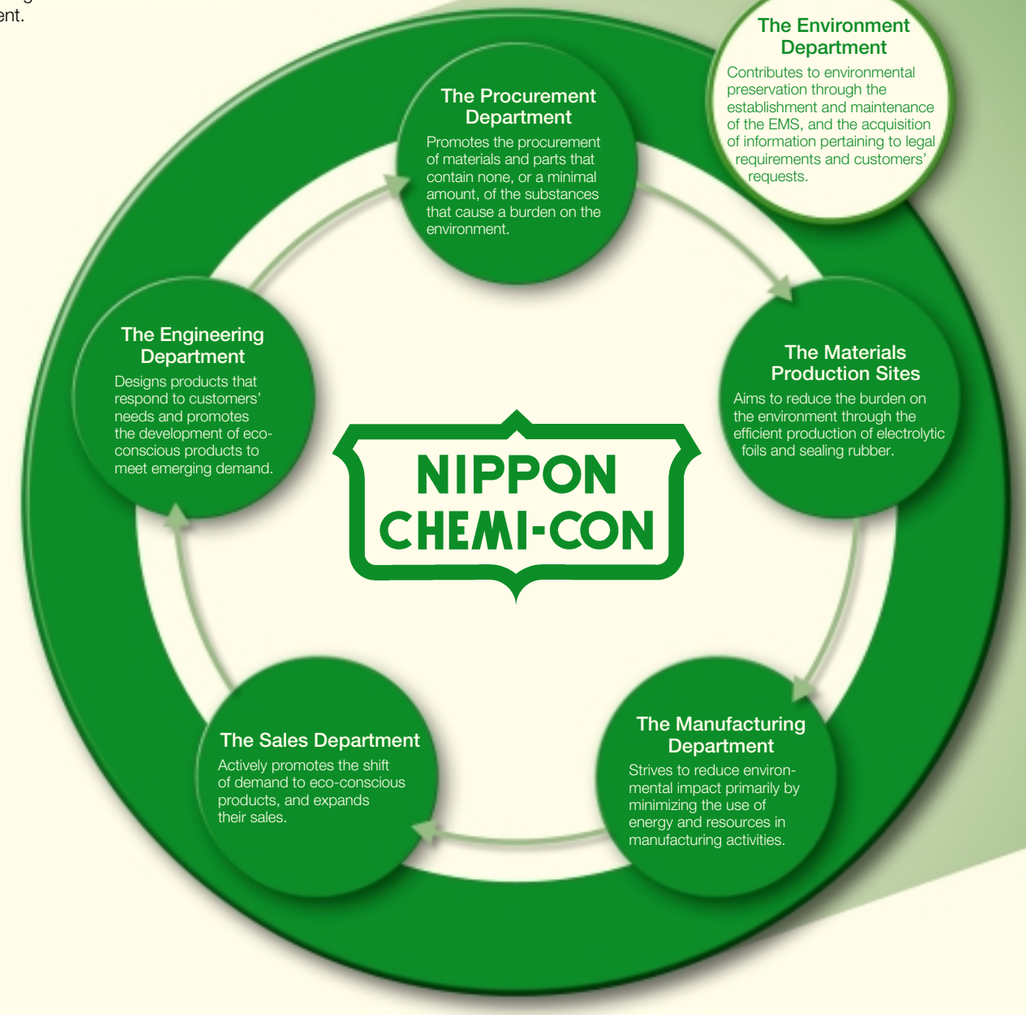
The Nippon Chemi-Con Group's mainstay products are aluminum electrolytic capacitors. They are used in consumer products such as TV sets and VCRs. These electric and electronic products use electric power for their operation. The consumption of electricity by the products results in a burden being placed 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.



Working together with society

In addition to conducting environmental preservation activities within the Nippon Chemi-Con Group, it is our duty to involve customers, suppliers, residents living near our business sites, and shareholders in order to produce a greater level of achievement. We ask that our customers use eco-conscious products and that our suppliers develop and deliver materials that contain a minimal amount of environmentally hazardous substances. In order to continue our environmental activities, it is important that we seek the understanding and cooperation of our shareholders and the people living near our business sites. Each entity connected to our business plays an important role in the solving of environmental problems.

Part 2
Environmental Efforts

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 will complete the construction of a supply system for eco-conscious products by March 2004.

In addition to the reduction of hazardous substances, a downsizing of products and extension of the service life contributes to a reduction of the environmental burden resulting from production and helps to conserve the resources. The following page shows the efforts we have made in product downsizing over the past 30 years.

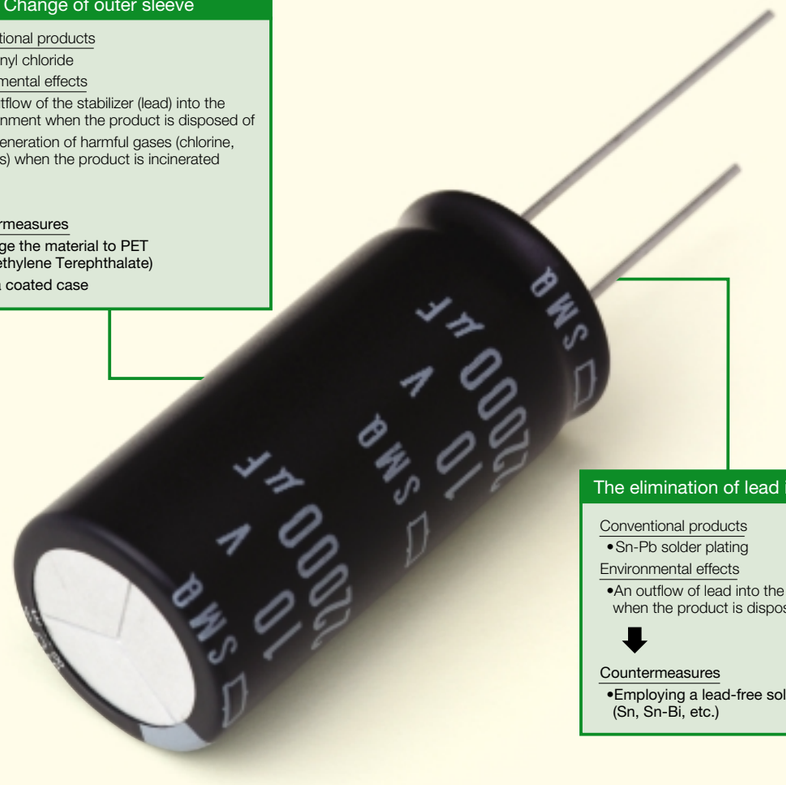
Examples of the ecological features of our aluminum electrolytic capacitors

Change of outer sleeve

Conventional products
- Polyvinyl chloride

Environmental effects
- An outflow of the stabilizer (lead) into the environment when the product is disposed of
- The generation of harmful gases (chlorine, dioxins) when the product is incinerated

Countermeasures
- Change the material to PET (Polyethylene Terephthalate)
- Use a coated case



The elimination of lead in lead wires

Conventional products
- Sn-Pb solder plating

Environmental effects
- An outflow of lead into the environment when the product is disposed of

Countermeasures
- Employing a lead-free solder plating (Sn, Sn-Bi, etc.)

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.

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

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

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)

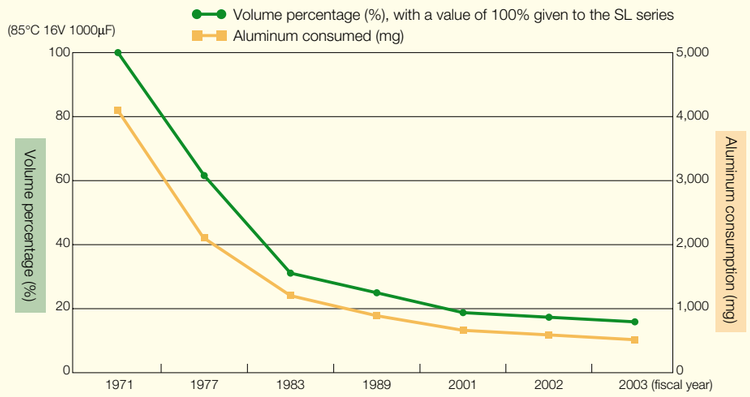
With regard to smaller sizes and the minimum use of resources

As electric and electronic products have become smaller, the size of the electronic devices and parts used in them have also changed significantly over the years. Our group has focused on the downsizing of aluminum electrolytic capacitors since they first began operation. As a result of this effort, we have been increasing the capacity of electrode foils.

Through such efforts, we have achieved a significant reduction in the amount of aluminum used in electrode foils and other parts.

The graph on the right shows the change in the product size and the amount of aluminum used in products from 1971. Over the past 30 years, we have reduced the amount of aluminum to about one fifth of the original size without causing any decrease in the performance level, as is indicated in the graph.

Change of product size and aluminum consumption



Part 2
Environmental Efforts

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.

Unfortunately, it is not possible to totally eliminate the consumption of electricity and chemicals and the generation of waste. However, even the slightest cutback contributes to the reduction of the environmental burden. 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 production of eco-conscious products

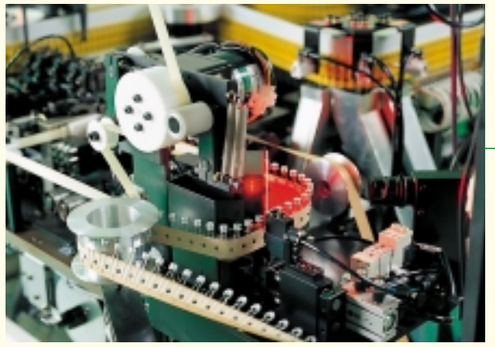
In order to produce electrolytic capacitors, it is necessary to use materials designated as environmental load causing substances for some parts. For instance, the solder plating contains lead, and the outer sleeve is made of polyvinyl chloride. The production facilities must be modified so that alternative materials that have less of an environmental impact can be used. At all our plants, we are quickly revamping the production equipment.

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 installation of nitric acid recovery devices for resource conservation and waste reduction

We have installed nitric acid recovery devices in the Takahagi Plant, which produces the aluminum electrode foils that are used as the raw material in our products. These devices have reduced the amount of nitric acid necessary for use in the electrode foil etching process by about 60%. As a result, we have also decreased the amount of neutralized industrial waste.



The elimination of lead and polyvinyl chloride

In the production processes of aluminum electrolytic capacitors, we are modifying the equipment to enable the elimination of polyvinyl chloride and lead in lead wires. By March 2004, we will be able to respond to the eco-conscious needs of all our customers.

Example of energy-saving activities

Example of energy saving through the improvement of compressor operation controls

(Nippon Chemi-Con Fukushima Plant, 2001–2002)

The following chapter introduces the energy saving activities promoted at the Fukushima Plant. This plant manufactures large aluminum electrolytic capacitors.

The compressed air used in the production process is supplied by compressors. The electric power used by the compressors accounted for 27% of the total power consumed by the Fukushima Plant. We modified the existing equipment and reviewed the operation control system in an effort to save energy whenever aged compressors needed to be replaced.

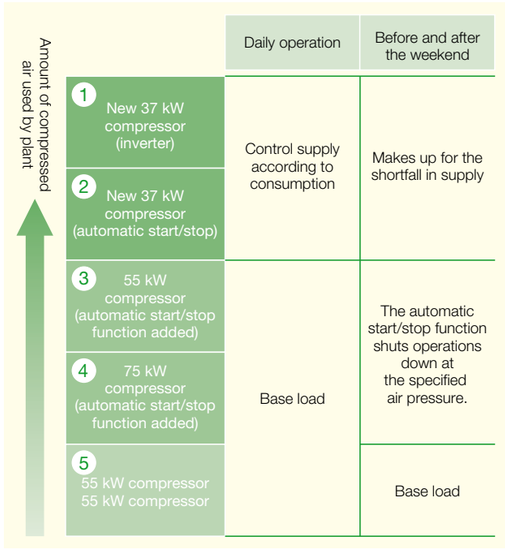
Details of the improvements

The plant was installed with eight compressors. The four small (22 kW) units were replaced with two new 37 kW units. One of these units was installed with an inverter control (1), and the other unit was provided with an automatic start/stop function (2). Of the existing compressors, one 55 kW unit (3) and one 75 kW unit (4) was installed with an automatic start/stop function, and the two remaining 55 kW units (5) were designated as base load providing units.

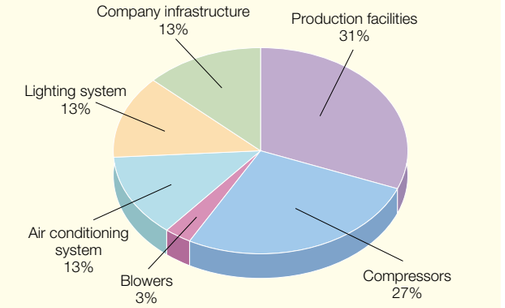
The control of the compressor operations is based on two modes: beginning and end of the week management, and daily management.

When the consumption of compressed air is high, four units, (3) through (5), operate as base load providing units. When the demand exceeds the total capacity of these units, unit (2) with an automatic start/stop function and unit (1) with an inverter respond to the fluctuations in demand.

Just after the week's production begins or just before the week's production ends, the automatic start/stop function of compressors (3) and (4) is activated so that they stop operating when a specified level of air pressure is reached. The detailed control of compressor operations has resulted in a significant amount of energy conservation.



Breakdown of electricity used



Newly installed compressors (one with an inverter and one with an automatic start/stop function, both having a capacity of 37 kW)

Effects of the improvement

<Effect provided by the installation of an automatic start/stop function>

- Reduces the level of power consumption when the demand for low compressed air is low

	Before improvement	After improvement
Power consumption	11,800 kWh/year	1,300 kWh/year

<The effect resulting from the installation of an inverter compressor>

- Reduces power consumption when the demand fluctuates during normal operation and improves the stability of the air pressure level

	Before improvement	After improvement
Power consumption	532,000 kWh/year	400,000 kWh/year

<The effect resulting from the replacement of the compressor>

- Reduces the maintenance costs because four compressors were replaced by two new units

	Before improvement (4 units)	After improvement (2 units)
Maintenance costs	1,200,000 yen/year	600,000 yen/year

The combined effects result in the following cost savings:

Reduction in power consumption	Reduction in costs
142,500 kWh/year	2,452,500 yen/year

Part 2
Environmental Efforts

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." On the other hand, "purchasing" refers to the acquirement of items and services not directly related to manufacturing, such as office equipment.

Since items procured and purchased have varying degrees of effect on the 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 in order to obtain the understanding and cooperation of our suppliers. We plan to expand and strengthen these activities in the future.

Green procurement meeting

Specified-substance-free certification

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.

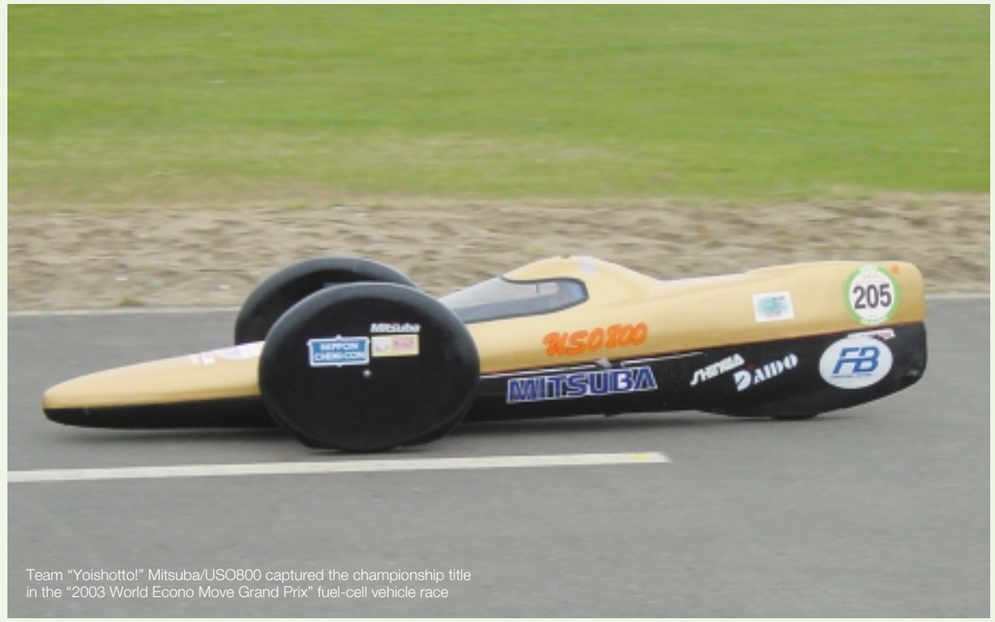
Sidebar

Nippon Chemi-Con's Technologies Are Found in Unexpected Places

Our mainstay products, aluminum electrolytic capacitors, are used in a wide range of fields centered around electric and electronic products. For example, a 14-inch LCD TV contains about 100 aluminum electrolytic capacitors of varying sizes. In a 30-inch LCD TV, the number of aluminum electrolytic capacitors can be as high as 300. Common products and functional components, such as inverters for air conditioners, strobes for cameras, and air bags in automobiles, all use electrolytic capacitors.

Take a karaoke box, for example. In a typical karaoke room, there are between 400 and 500 electrolytic capacitors at work in places that you cannot see, such as inside the TV and audio equipment. In a typical home, you will probably find around 1,000 electrolytic capacitors, in products such as TVs, VCRs, stereo systems, microwave ovens, and video game machines.

Almost all products that use electricity also use electrolytic capacitors.



Team "Yoishotto!" Mitsuba/USO800 captured the championship title in the "2003 World Econo Move Grand Prix" fuel-cell vehicle race

Fuel cells produce electricity using oxygen and hydrogen, and do not discharge any emissions that are harmful to the environment. Consequently, they are attracting a great deal of attention as an environmentally friendly device of the future. The "2003 World Econo Move Grand Prix" held in May 2003 in Ohgata Village, Akita Prefecture, was the world's first motor race involving fuel-cell cars. In this competition, the vehicles equipped with Nippon Chemi-Con's electric double-layer capacitors dominated the top places. Nippon Chemi-Con's superior technologies can be found in the most unexpected places.

Energy Conservation

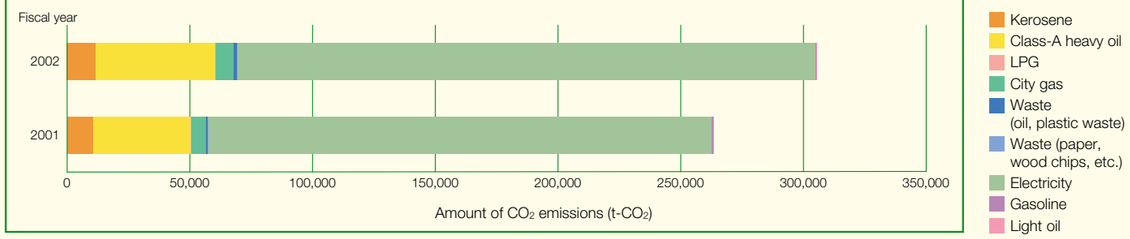
The Daily Activities Aimed at Reducing the Level of Energy Consumption

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.

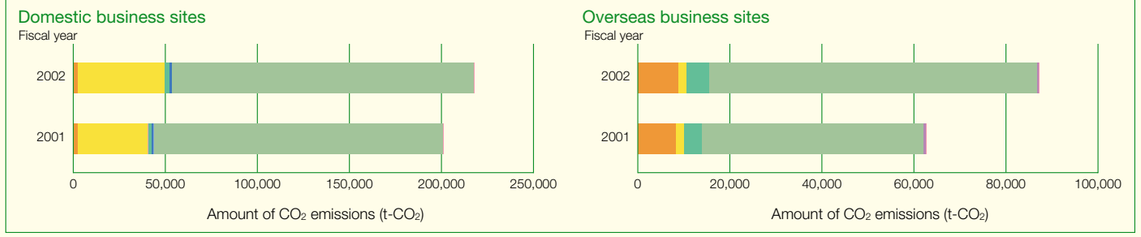
Our focus is on energy-saving activities because we believe the efforts we make toward minimizing the power consumption can contribute to a decrease in the environmental burden.

The following graphs show the amounts of energy consumed by our group, expressed by the volume of carbon dioxide emissions. A comparison of the data in fiscal year 2001 and 2002 indicates an **increase of about 16%**. However, when the level of production activity and number of units sold are taken into consideration (for domestic sites), the data represents a **decrease of about 0.3%** between the two years.

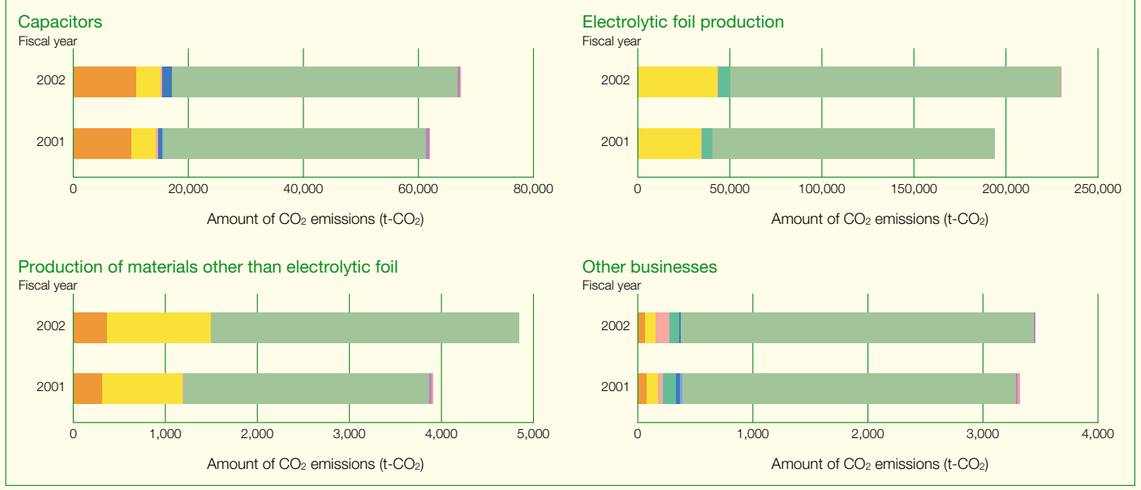
■ Total CO_2 emissions generated by the Nippon Chemi-Con Group



■ CO_2 emissions by region



■ CO_2 emissions by business segment



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.

■ Total resources consumed by Nippon Chemi-Con Group

(Unit: tons)

Resource			Item	Fiscal year 2001	Fiscal year 2002	Rate of increase/decrease
Resources consumed	Water		Tap water	298,000.0	283,000.0	–5.3%
			Industrial water	5,335,000.0	5,445,000.0	2.0%
			Underground water	4,142,000.0	4,112,000.0	–0.6%
			Total	9,775,000.0	9,840,000.0	0.7%
	Production materials	Metal	Aluminum (foil, tab, etc.)	15,000.0	22,100.0	32.1%
			Non-ferrous metals other than aluminum	391.0	375.0	–4.3%
			Iron, stainless steel	970.0	1,390.0	30.2%
			Total	16,361.0	23,865.0	31.4%
		Plastics	Polyvinyl chloride (PVC)	330.0	380.0	13.2%
			Thermo-plastics other than PVC	390.0	430.0	9.3%
			Thermosetting plastics	310.0	360.0	13.9%
			Rubber	3,400.0	4,250.0	20.0%
			Total	4,430.0	5,420.0	18.3%
		Other organic materials	Separators, etc.	1,300.0	1,450.0	10.3%
		Other inorganic materials	Ceramics, glass, etc.	58.7	50.3	–16.6%
			Total	22,149.7	30,785.3	28.1%
	Subsidiary production materials	Packaging materials	Corrugated cardboard, paper	2,980.0	3,730.0	20.1%
			Plastics	580.0	690.0	15.9%
	Office supplies	Office paper	Copy paper, etc. (A4-size, unit: a million sheets)	13.8	15.7	12.1%

■ Resource consumption by region

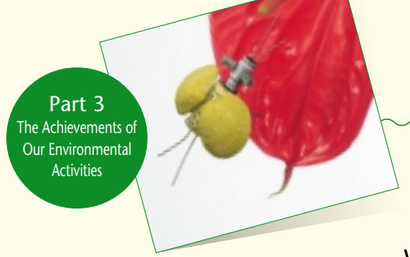
(Unit: tons)

Domestic business sites		Overseas business sites	
Fiscal year 2001	Fiscal year 2002	Fiscal year 2001	Fiscal year 2002
167,000.0	160,000.0	131,000.0	123,000.0
5,230,000.0	5,330,000.0	105,000.0	115,000.0
4,080,000.0	4,020,000.0	62,000.0	92,000.0
9,477,000.0	9,510,000.0	298,000.0	330,000.0
12,400.0	19,400.0	2,600.0	2,700.0
380.0	320.0	11.0	55.0
710.0	1,050.0	260.0	340.0
13,490.0	20,770.0	2,871.0	3,095.0
200.0	280.0	130.0	110.0
350.0	380.0	40.0	50.0
260.0	300.0	50.0	60.0
2,660.0	3,360.0	740.0	890.0
3,470.0	4,320.0	960.0	1,110.0
900.0	1,030.0	400.0	420.0
1.7	1.3	57.0	49.0
17,861.7	26,121.3	4,288.0	4,674.0
2,040.0	2,520.0	940.0	1,210.0
430.0	460.0	150.0	230.0
10.3	11.5	3.5	4.2

■ Resource consumption by business segment

(Unit: tons)

Resource			Item	Capacitors		Electrolytic foil production		Production of materials other than electrolytic foil		Other businesses	
				Fiscal year 2001	Fiscal year 2002	Fiscal year 2001	Fiscal year 2002	Fiscal year 2001	Fiscal year 2002	Fiscal year 2001	Fiscal year 2002
Resources consumed	Water		Tap water	266,000.0	246,000.0	19,000.0	27,000.0	4,400.0	5,500.0	8,600.0	4,500.0
			Industrial water	105,000.0	115,000.0	5,230,000.0	5,330,000.0	0.0	0.0	0.0	0.0
			Underground water	1,110,000.0	1,080,000.0	2,870,000.0	2,920,000.0	160,000.0	110,000.0	2,000.0	1,600.0
			Total	1,481,000.0	1,441,000.0	8,119,000.0	8,277,000.0	164,400.0	115,500.0	10,600.0	6,100.0
	Production materials	Metal	Aluminum (foil, tab, etc.)	7,060.0	7,940.0	7,260.0	13,200.0	640.0	920.0	42.0	40.0
			Non-ferrous metals other than aluminum	130.0	130.0	0.0	24.0	250.0	210.0	10.0	8.0
			Iron, stainless steel	570.0	620.0	0.0	250.0	300.0	340.0	97.0	180.0
			Total	7,760.0	8,690.0	7,260.0	13,474.0	1,190.0	1,470.0	149.0	228.0
		Plastics	Polyvinyl chloride (PVC)	330.0	350.0	0.0	0.0	0.0	0.0	0.0	30.0
			Thermo-plastics other than PVC	360.0	410.0	0.0	0.0	0.0	0.0	26.0	24.0
			Thermosetting plastics	310.0	360.0	0.0	0.0	0.0	0.0	2.0	1.7
			Rubber	2,120.0	2,440.0	0.0	0.0	1,280.0	1,810.0	4.0	0.1
			Total	3,120.0	3,560.0	0.0	0.0	1,280.0	1,810.0	32.0	55.8
		Other organic materials	Separators, etc.	1,300.0	1,450.0	0.0	0.0	0.0	0.0	0.0	1.0
		Other inorganic materials	Ceramics, glass, etc.	1.2	1.2	0.0	0.0	0.0	0.0	57.0	49.0
			Total	12,181.2	13,701.2	7,260.0	13,474.0	2,470.0	3,280.0	238.0	333.8
	Subsidiary production materials	Packaging materials	Corrugated cardboard, paper	2,820.0	3,450.0	50.0	130.0	33.0	47.0	80.0	100.0
			Plastics	560.0	640.0	0.2	17.0	3.5	3.7	20.0	24.0
	Office supplies	Office paper	Copy paper, etc. (A4-size, unit: a million sheets)	10.1	11.2	2.0	2.9	0.5	0.5	1.2	1.2



Part 3
The Achievements of Our Environmental Activities

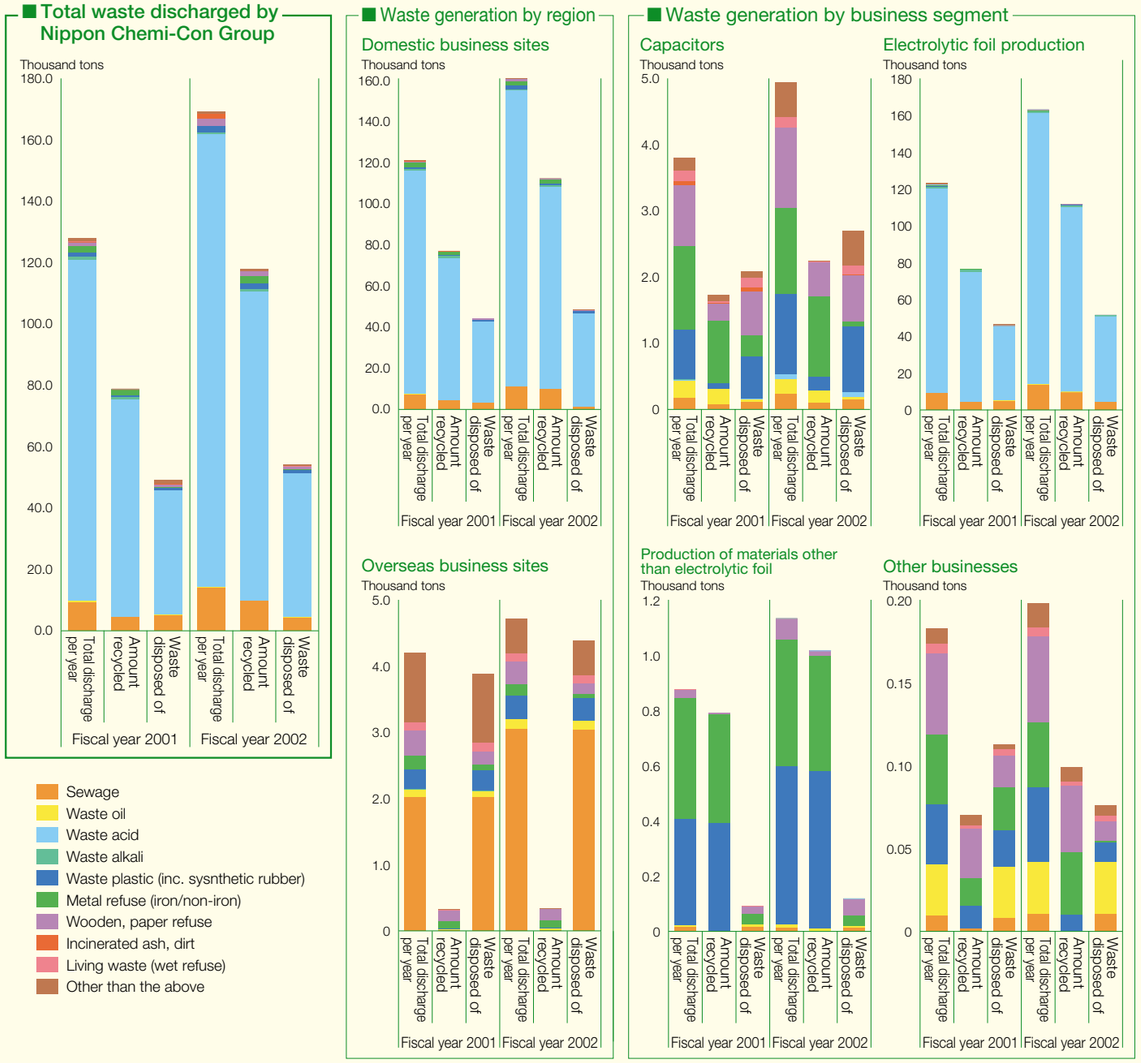
Waste Reduction and Recycling

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 total amount of waste discharged **increased by about 32% in fiscal year 2002** due to an expansion in production activities, but **the recycling rate improved from 62% in the previous year to 68%**. In particular, a **5% rise in the recycling rate of acid waste**, which accounts for a large portion of our waste discharges, contributed greatly to the improvement of the overall recycling rate. This was enabled by the installation of nitric acid recovery devices described in the section under the title of "Environmental Preservation Activities on Production Floors."



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 been made more rigorous in recent years both inside and outside Japan, and conducting corporate activities in compliance with these laws and regulations is very important.

Chemical substances control

The Nippon Chemi-Con Group conducts a thorough management of chemical substances in the stages of raw material procurement and usage. We market products in conformity with the law and the requirements of the customer, and actively provide information regarding the chemical substances we use in our products.

Stage	Control standard and others	Description
The purchasing of raw materials, parts, etc.	• "Green Procurement Standards" (control of chemical substances) • Management standards for controlled substances used in raw materials, parts, and subsidiary materials. • Regulations concerning purchasing.	• 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.
The control of chemical substances within the Nippon Chemi-Con Group	• "Chemical Substance Handling Regulations" • "New Chemical Substance Evaluation Procedures" • "PRTR Application Procedures" Others	• We designate the management levels for chemical substances that are handled within the group. • We specify the method for evaluating chemical substances that are newly introduced into production processes. • We stipulate the regulations based on the PRTR Law.
Response to customers and shareholders	• "Environmental Policy" (the disclosure of information) • Business contracts • Agreements, warranties	• We present a report of the chemical substances contained in our products. • We provide analysis data and composition data.

Notification according to the PRTR Law

The Law Concerning Reporting, etc., of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management (PRTR Law) was established in 1999 in order to understand the amounts of specific chemicals that were released into the environment and transferred, with the aim of promoting the improvement of chemical substance management. In fiscal year 2001, it became mandatory to report to the Administration the amounts of controlled chemical substances (354 substances) released to the environment.

The submission of reports began for chemical substances released in fiscal year 2001, and our group submitted our first notification in June, 2002. The following table shows our chemical release notification for fiscal year 2001.

Report of the release and transfer of specified chemicals stipulated in the PRTR Law (Fiscal year 2001)

(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
Ethylene glycol	43	Iwate Plant	0	110	0	0	0	0
		Miyagi Plant	0	0	0	0	0	21,000
		Fukushima Plant	0	94	0	0	0	5,200
Dichloromethane (note 1)	145	Marcon Electronics	12,000	0	0	0	0	12,000
Lead and its compounds	230	Miyagi Plant	0	0	0	0	0	5,900
p-nitrophenol	239	Iwate Plant	0	1.2	0	0	0	0
Hydrogen fluoride and its water-soluble salts	283	Takahagi Plant	0	1,800	0	0	0	13,000
Boron and its compounds	304	Iwate Plant	0	260	0	0	0	35
		Iwate Electrolytic Industry	0	6,800	0	0	0	17
		Fukushima Plant	0	94	0	0	0	11
		Fukushima Electrolytic Industry	350	3,000	0	0	0	16,000
		Takahagi Plant	0	1,200	0	0	0	16,000
Dioxins (note 2) (unit: mg-TEQ)	179	Iwate Plant	0.95	0	0	0	0	0.12
		Marcon Electronics	20	0	0	0	0	2.7
		Miyagi Plant	0.016	0	0	0	0	0.013
		Fukushima Plant	0.021	0	0	0	0	0.039
		Takahagi Plant	6.6	0	0	0	0	0.089

The above table contains the data submitted in fiscal year 2002. In addition to the above chemicals, nine of our business sites handle eight other specified chemical substances, but the amounts handled are less than the quantities stipulated to warrant individual reports.
(Note 1) The release of dichloromethane by Marcon Electronics was terminated at the end of March 2003.
(Note 2) Dioxins are no longer released because the furnaces have been shut down (in March 2003).

Part 3
The Achievements of Our Environmental Activities

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.

Systems for ensuring adherence to the law

The Nippon Chemi-Con Group uses the following in-house systems in order to ensure that there is a strict compliance with the environmental laws and regulations.

Domestic business sites certified for ISO14001

We have established a law and regulation management system based on the ISO requirements (Section 4.3.2.). The list of applicable items stipulated in the laws and regulations is used for the management and conformity of activities. Internal audits are also conducted.

Domestic business sites not yet certified for ISO14001

We check the conditions of compliance with the laws and regulations using the reports presented in joint environmental meetings. We plan to strengthen the second-party audit system at our main office in order to obtain an accurate level of information regarding the law-conforming conditions of our activities.

Overseas business sites

The present monitoring system is in need of improvement since each overseas site is responsible for its own environmental management. We plan to strengthen the second-party audit system of our main office so that we can obtain an accurate and detailed level of information regarding the law-conforming conditions of the activities of our overseas business sites.

Main environmental activities in fiscal year 2002

◆The shutdown of waste incineration furnaces designated as pollution sources

The dioxins discharged from incineration furnaces are causing serious social problems. In fiscal year 2002, our group stopped the operation of the waste incineration furnaces (furnaces specified in the Appendix Table 1 of the Enforcement Order for the Law Concerning Special Measures against Dioxins) installed at five of our domestic production facilities.

List of law-conforming conditions (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 the conditions of their compliance (as of July 2003).

Law/regulation	Control item, etc.		Ome main office	Iwate Plant	Kitakami Plant	Miyagi Plant	Fukushima Plant	Takahagi Plant	Niigata Plant	Marcon Electronics	Asahi Kinzoku Kogyo	Marcon Denso	Fukushima Electrolytic Industry	Iwate Electrolytic Industry	Nichiei Electronics	CAB Iwate Factory	CAB Niigataka Factory	Iwate Electronics	Note
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			●	▲														●	▲	*2
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)						●	●				●	●						
		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 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)			▼		▼	▼	▼		▼						▼			●	*5
Law Concerning Special Measures against PCB Waste	The storage of PCB-containing articles		●	●		●		●		●										
The Factory Location Law				●	●	●	●	●	●	●	●	●	●	●	●	●				

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 2002. *2 ▲: The use of the sewage system commenced in fiscal year 2003. Miscellaneous drainage is excluded.
*3 ○: Required in some prefectures. *4 ○: Regulated by the PRTR Law, but the amount handled is less than the stipulated quantity. *5 ▼: Incineration furnaces shut down in fiscal year 2002.

Part 4
Environmental Accounting

Environmental Accounting

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

The basic principle of "environmental accounting"

In order to conduct environmental preservation activities, a company must allocate management resources such as human resources, goods, and money. In order to preserve the environment and observe the law, sizable amounts of management resources are occasionally required. In order to ensure the effective and productive use of allocated management resources, a quantitative evaluation of the costs and the results of environmental preservation activities is necessary. The practice of "environmental accounting" is used for such assessment purposes.

The establishment of an environmental accounting system

Environmental accounting is a system that quantitatively measures and analyzes the costs and effects of environmental preservation measures, and discloses 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 Group began an examination of prospective environmental accounting systems in 1998, and has been experimentally compiling the cost data at some of its business sites since fiscal year 2000. We also calculate the results in terms of their "economic effect," and compare the costs and effects in terms of their monetary value. (Economic effect comparison system)

The costs are calculated by examining the level of investment including elements of environmental preservation and the expenses directly related to environmental measures and ordinary environmental activities. As to the investment in production facilities, equipment, and other such materials which include various factors other than those directly effecting the preservation of the environment, the costs incurred for producing environmental preservation results are calculated by using coefficients and percentage factors, and the amount of annual depreciation expenses for the investment is added to the cost of environmental preservation.

The economic effects are calculated separately for direct and indirect effects. Direct effects include those that are objectively accountable, 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 only used internally as reference data since they cannot be determined as objective data.

■Provisional environmental accounting results (Nippon Chemi-Con main office and six plants)

Costs (Unit: million yen)

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

Effects (direct effects convertible to monetary amounts) (Unit: million yen)

Item	Fiscal year 2000	Fiscal year 2001	Fiscal year 2002
Energy conservation	19.02	6.11	21.88
Resource conservation	9.89	49.89	16.36
Waste reduction, recycling	6.41	4.39	10.50
Hazardous substance reduction	0.45	0.00	0.00
Others	0.08	0.40	2.43
Total	35.85	60.79	51.17

The above tables show the results of the estimation of the costs and the effects of the environmental preservation activities conducted by Nippon Chemi-Con's main office and six plants based on the aforementioned environmental accounting principle.

The analysis of the calculation results

For the purposes of our evaluation, we extracted the portion of the investment in facilities and equipment and the implemented measures which were thought to have produced 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.

In a three-year period from fiscal year 2000 to fiscal year 2002, **the total amount of money spent on environmental preservation was 152,000,000 yen, while the effects directly produced amounted to 148,000,000 yen**. This indicates that the environmental effects were roughly commensurate with the environmental cost. In fiscal year 2001, the annual environmental costs increased because two acid recovery devices were installed. In that year, the resource conservation effect was improved as a result of the acid recovery operation. With regard to the subsidiary effects, we calculated indirect effects (improved compliance with the laws and regulations, a decrease in risk, etc.) that could not be converted into monetary figures.

The system of environmental accounting is in the process of development, and further improvements are required in order to make its use effective. The Nippon Chemi-Con Group continues to enhance the system with the aim of improving the accuracy of the cost-effect analysis, and also examines other systems that can be used for the accurate calculation of environmental preservation effects.

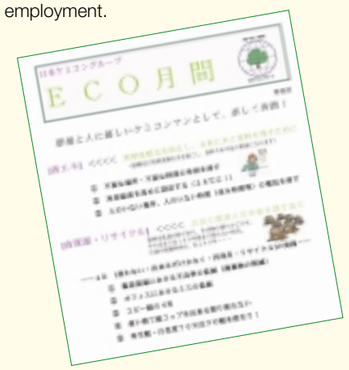
Part 5
Social Contribution

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.

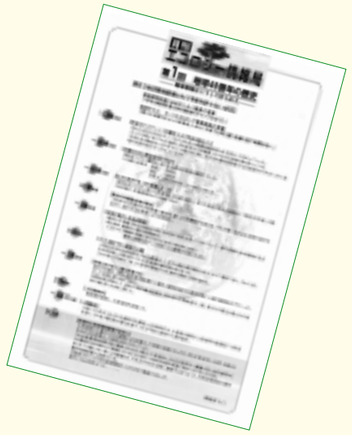


Awareness raising

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 also produce posters that promote the greater conservation of energy and resources.

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.

Niigata Plant
Employees and their families participated in the "Environment Cleaning Volunteers (to clean up Ajiro Beach)" program

Takahagi Plant
Employees and their families participated in a "Health-promoting Eco Walk"

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

A Word from the Chairman of the Environmental Committee

Since Singapore Chemi-Con, one of our group companies, obtained ISO14001 certification for meeting the international standards of environmental management systems in 1996, a total of 18 other business sites have been certified for ISO14001, and we have been operating the EMS (Environmental Management System) for eight years. Our environmental preservation activities have changed focus from a "reduction in the level of emissions" in the early years to "eliminating the use of substances that place a burden on the environment" in response both to legal requirements, and requests from our customers. We keep abreast of the changing times and respond with flexibility to emerging needs.

The current environmental report is the first one that we have issued. The practice of environmental preservation requires the efforts of all the companies within the group as well as the understanding and cooperation of our customers, suppliers, and all others who are concerned with our business. We believe that the disclosure of information and the practice of active communication will contribute to the improvement of our environmental activities.

We will continue to reflect your opinions to further enhance our environmental activities and contribute to the betterment of the global environment.

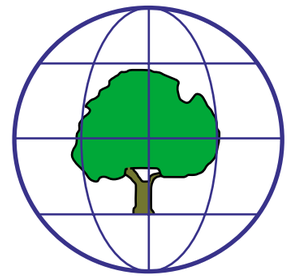
We look forward to hearing your frank opinions on the matter.

Yuzo Shibata
Senior Executive Managing Director (Chairman of the Environmental Committee)
Nippon Chemi-Con Corporation

Company Outline

Company name:	Nippon Chemi-Con Corporation
Main office location:	1-167-1, Higashi-Ome, Ome, Tokyo
Representatives:	Hikokichi Tokiwa, Chairman and CEO Ikuo Uchiyama, President and COO
Date of foundation:	1931
Domestic business sites:	8 main plants, 13 offices, and 13 subsidiaries
Overseas business sites:	19 locations in 8 countries
Business line:	The manufacture and sale of aluminum electrolytic and other capacitors, precision parts, and electronic equipment.
Number of employees:	1,668
Capital:	15,750 million yen

Green for Tommorrow



Nippon Chemi-Con Group

A note on the design of this publication

The cover of this environmental report features "snails" that have been made out of our aluminum electrolytic capacitors (using a lead-free solder and a PET outer sleeve). The other insects depicted throughout the report were also made with products manufactured by our group.

A word from the editor

We have released the first edition of our environmental report in a climate of growing environmental concerns. This report introduces our environmental vision, philosophy, and activities in way that is easily understandable. The publication of the report is targeted at those who have an interest in our environmental activities, such as environmental specialists, customers, suppliers, NPOs, investors, students, and company employees. There are many improvements to be made in the publication, and we will continue to work hard in order to bring you a better environmental report in the future.

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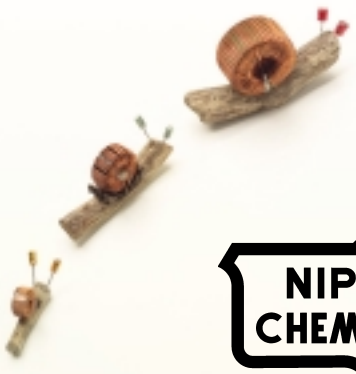
Please visit our Website to learn more about our company's business activities, financial data, environmental activities, and other company-related issues.
http://www.chemi-con.co.jp/



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