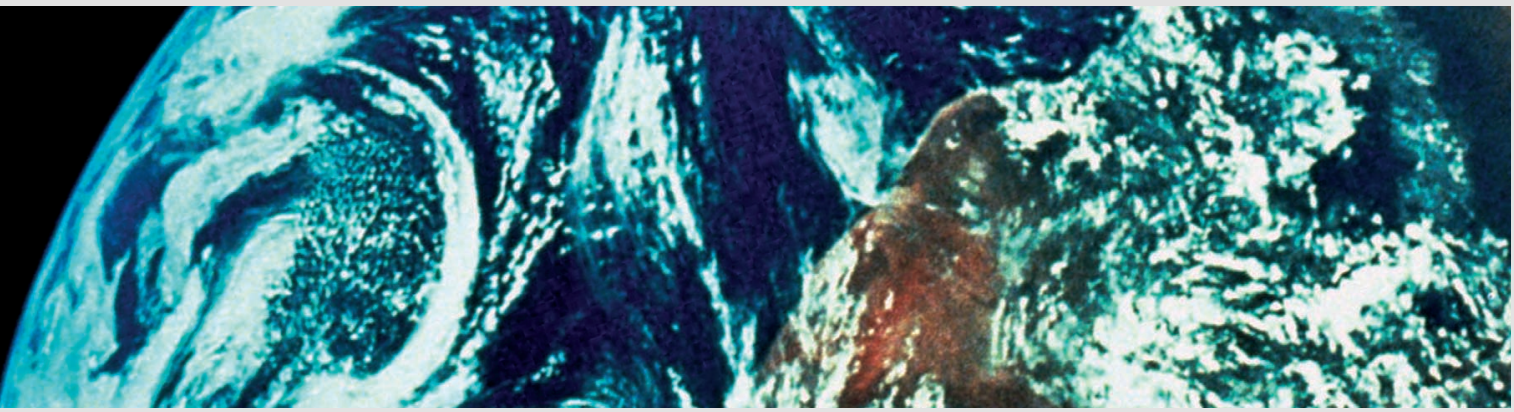
Friendly to people, Friendly to nature.

2004

Environmental Report

ALPS ELECTRIC CO., LTD.

For The Year Ended March 31, 2004



ALPS®

Alps' Environmental Protection Charter

Alps' Philosophy

Alps, as a member of the global community, is committed to protecting the beauty of nature and to safeguarding our precious resources through the use of technologically advanced business practices and the efforts of its employees, in order to promote sustainable development.

Action Program

Putting a priority on environmental protection, we at Alps will:

1.Develop products in light of environmental concerns
2.Engage in environmentally friendly production and sales
3.Conserve our natural resources
4.Reduce or eliminate waste
5.Increase recycling activities

Contents

Editorial Policy

This is Alps' sixth Environmental Report. Alps has written this report in keeping with the 2003 version of the Environmental Reporting Guidelines of the Ministry of the Environment and also reflects with responses to a questionnaire on last year's report.

The content of this year's report is more extensive, giving detailed descriptions of initiatives being taken both in Japan and at production bases overseas. We hope this will be a useful tool for facilitating valuable communication with all those interested in Alps and its activities.

Your questionnaire responses and comments will be useful in guiding our future environmental protection activities.

- **Period covered**: This report compiles data primarily from April 1, 2003 to March 31, 2004.
- **Organizations covered**: Alps Electric Co., Ltd. (12 sites) Some portions include data from manufacturing companies outside of Japan (13 sites).
- **Scope of this report**: This report covers the approach to environmental protection and social contribution within the business activities of Alps and its manufacturing affiliates outside of Japan.
- **Published**: June 2004 (The next publication of Alps' Environmental Report is planned for June 2005.)

Company Profile

Alps Electric Co., Ltd. has made great advances as a comprehensive electronic components manufacturer since its establishment in 1948. At present, Alps designs and manufactures products in five main business fields-Components, Magnetic Devices, Communications, Peripheral Products and Automotive Electronics. We pursue innovations in technology and production methods at 24 manufacturing bases in 9 nations and at 58 sales bases in 12 nations across the five major regions of Japan, America, Europe, ASEAN/Korea and China.

Alps also counts 103 affiliates in Japan and abroad, including the car audio and car navigation manufacturer Alpine Electronics, Inc. and Alps Logistics Co., Ltd. Alps Logistics has expanded its services well beyond its original specialty of electronic components.

Name of company	Alps Electric Co., Ltd.
Established	November 1,1948
Capital stock	22,913million yen
Number of issued shares	180,720,000
Number of employees	6,200*
Fiscal year ending	Annually on March 31

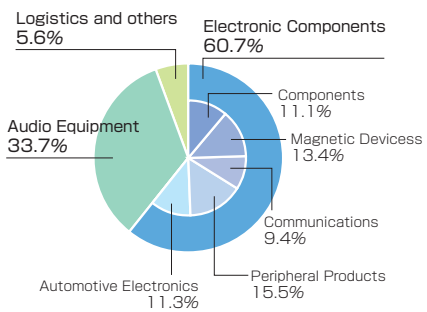
*April 1, 2004

Financial Data (Year ending March 31, 2004)

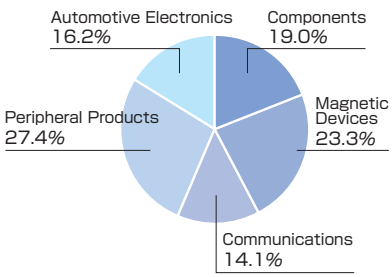
(Millions of yen)

	Consolidated	non-consolidated
Net Sales	619,675	346,701
Operating Income	36,174	12,271
Ordinary Income	30,458	8,497
Net Income	16,942	5,723

Breakdown of Consolidated Sales

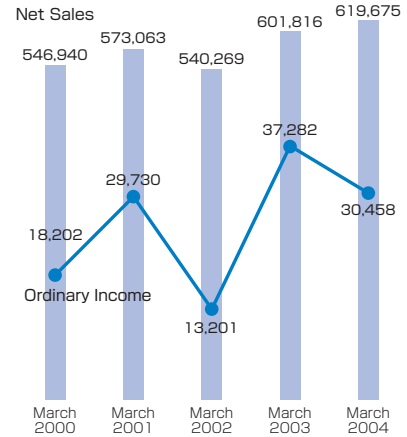


Breakdown of Non-Consolidated Sales



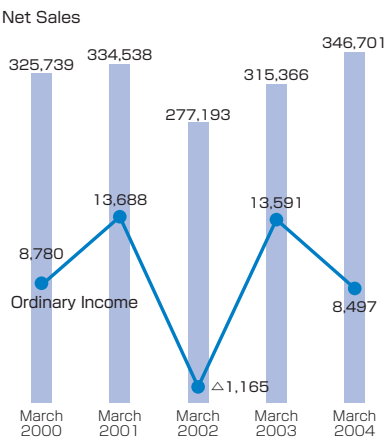
Consolidated Sales/Ordinary Income

(Millions of yen)

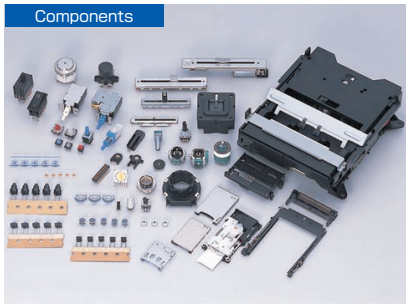


Non-Consolidated Sales/Ordinary Income

(Millions of yen)



Components

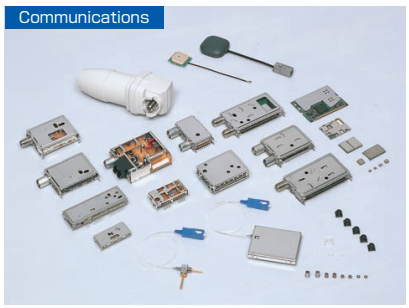


Potentiometers, Encoders, Switches, TACT Switches, Sensors, Connectors, Cassette Mechanisms

Magnetic Devices

Magnetic Heads for Audio Applications, Magnetic Heads for VCR, Magnetic Heads for Digital Disk

Communications



TV/VCR Tuners, FM/AM Tuners, Broadcasting Satellite Tuners, Transceiver Units for Communication, Communication Network Modules, Voltage Controlled Oscillators, Optical Communication Lens, Optical Communication Modules, Camera Module

Peripheral Products

Floppy Disk Drives, Data Input Devices (Keyboards, etc.), Strapcontroler™, Remote Control Units, Liquid Crystal Displays, Low-Profile Operation Units, Printers

Automotive Electronics

Control Units for Car-Use Mechatronic, Door Modules, Steering Modules, Smart Remote Keyless Entry Systems, Haptic Commander™

Alps fulfills its responsibilities to society by taking a "Spaceship Earth" approach

Masataka Kataoka, President

Considering the big picture for how we use our limited resources and energy

Thirty years ago, when I joined Alps, I heard the expression "Spaceship Earth" for the first time. An American thinker of the time advocated this concept. The idea is that the earth is like a ship traveling through space, so that its passengers are obligated to live in a self-contained way on this ship. For example, carbon dioxide (CO_2) and hazardous substances cannot be shipped off the planet, and new resources cannot be brought in.

Whenever we are dealing with environmental problems, I think of these words. If all members of the human race were to consider how to maintain this ship, I believe that we would change our actions so that we do not place greater and greater burdens on the planet and the global environment.

Create fine electronic devices while reducing our environmental burden

With a Corporate Philosophy "Alps creates new values that satisfy stakeholders and are friendly to the earth," Alps has defined its Business Domain as "Pursuit of the ultimate in fine electronic devices." When I speak of "fine electronic devices," I am referring to components that are physically attractive, highly functional but cost-effective, and environmentally benign.

The expression "environmentally benign" comprises several elements. First of all, it means not using hazardous substances. At the design and development stage, we have to consider how easy it is to circulate and recycle the materials. The second element is resource conservation. We minimize the waste of materials and components provided to us by maximizing their use. The third element is energy conservation. We look at how we can reduce the energy requirements of our products so that we can help prevent global warming.

Moreover, for Alps, simplification of materials shapes a fundamental concept of product development. When new, compounded materials are created, they can make products more compact and enhance performance, but they are not easy to break down into component materials or to recycle. If we single-mindedly pursue convenience, we will forever be developing new, compounded materials. I hope that instead society will say, "No, we want quality products made just from this material." Manufacturers may find it painful to think this way, but it is a principle we will have to consider if we adopt the concept of "Spaceship Earth"

Building an environmental performance assurance system to eliminate hazardous substances

The European Union's RoHS Directive comes into force in July 2006, but industry has an obligation to try to reduce hazardous substances immediately, regardless of the timing of regulations. In the green procurement effort, at this stage, we are making individual responses to the requirements of finished product manufacturers. If Europe's regulations turn out to be a valid model, taking these as a global standard could well be an option.

Alps has instituted more stringent "green procurement" practices because components we supplied to manufacturers had contained some of the controlled substances. At such times, all we could do was check documentation, and if our suppliers included controlled substance in their products, we did not even notice until it

was too late.

These incidents spurred us to establish inspection systems for hazardous substances immediately. We installed analysis equipment at both Japanese divisions and oversea bases. Alps intends to continue reducing hazardous substances contained in our products in order to assure environmental performance of these products.

Alps employees take the lead in widening the circle of our environmental protection activities

Since Alps began taking a serious look at environmental problems, I have begun taking more personal responsibility for the environment. Even at home, I now compost food waste. When employees take steps like sorting garbage and thereby act to protect the environment, not only at the workplace, but at home and within the community, these efforts benefit society as a whole.

Japan's efforts on behalf of the environment are among the most progressive in the world, I believe. This environmental leadership is one of the strengths of Japan's electronic components industry. However, when we think about environment on the global scale, it is not enough for Japan to keep this technology to itself.

In addition to earning ISO 14001 certification at our overseas production bases, we are taking environmental initiatives previously begun at overseas bases and turning them into concerted efforts of the group. While we have set a goal of reaching zero-emissions at a domestic level during FY2004, we are currently developing a unified Environmental Management System that includes targets for waste reduction and recycling at overseas facilities.

Alps is promoting waste separation to spark a change of awareness at our business sites whose local governments or other bodies have not established recovery methods to sort and recycle waste yet. Often, our directives meet resistance from affiliates, but when they see the sorted materials starting to sell and become a source of revenue, naturally, they take a greater interest in these measures.

My hope is that these and similar activities that Alps is conducting around the world will incite a change of environmental consciousness wherever they happen.

We hope that our readers will find this report to be a good introduction to our environmental protection efforts, and we would appreciate any suggestions and supportive comments you would like to send us.

Alps' Corporate Vision

Alps marked 1998, its 50th anniversary, as the year of a Second Founding of the Company. On this occasion, we conceived a new corporate vision. Our new objective is to create new values in the next era, amid the advanced information revolution, which we consider an era of symbiosis between humans and the earth.

Corporate Philosophy

Alps creates new values that satisfy stakeholders and are friendly to the earth.

Business Posture

Pursuit of Values
We pledge to conduct our business in pursuit of creating new values.

Harmony with Nature
We pledge to conduct our business in earth-friendly ways that harmonize with the global environment.

Partnership with Customers
We pledge to conduct our business so as to learn from customers and to respond quickly to their needs.

Fair Management
We pledge to conduct our business fairly, based on a worldwide perspective.

Respect of the Individual
We pledge to conduct our business so as to encourage and take advantage of the enthusiasm of our valued employees.

Business Domain

Pursuit of the ultimate in fine electronic devices.
Our goal is to build products that facilitate user-friendly communication and relationships between people and media

Action Guidelines

1. Alps people will realize new values through flexible thinking and bold actions.
2. Alps people will preserve the natural environment and treat precious resources with great care.
3. Alps people will meet customers' expectations by making decisions quickly and implementing them speedily.
4. Alps people will act fairly, working to adhere to world rules and to understand different cultures.
5. Alps people will function as teams of professionals seeking to refine their specialist skills.

Fiscal 2003 Plan and Results

This report presents the FY2003 results of the Fourth Medium-Term Voluntary Action Plan for Environmental Protection.

Midterm report on the Fourth Medium-Term Voluntary Action Plan for Environmental Protection

In FY2002 Alps established its Medium-Term Voluntary Action Plan for Environmental Protection, covering the 2003 - 2005 fiscal years and applicable to its bases in Japan. This plan sets concrete, numerical targets for continuous reductions of CO_2, greenhouse gases and wastes. Alps is currently emphasizing our goal of zero-emissions, a target we expect to reach in FY2004. Besides this, as a product-related initiative, we are practicing green procurement in order to eliminate hazardous substances and thereby advance eco-friendly design.

The Fourth Medium-Term Voluntary Action Plan for Environmental Protection primarily sets targets that only apply to bases in Japan, but the Alps Group is also examining campaigns that would include overseas sites and allow our business to respond to the issues globally.

The table below sums up results of activities in FY2003 and our self-assessment of them.

The Fourth Medium-Term Voluntary Action Plan for Environmental Protection and FY2003 Results

Objective		Action target (FY2003-FY2005)
Management Develop an appropriate organizational structure and foster environmental awareness in each employee to achieve effective environmental management.	Environmental Management System	1. Acquirement of ISO 14001 certification at overseas bases 2. Promotion of information exchange with overseas operations
	Environmental communication (External)	1. Periodical publication of environmental reports 2. Information distributions on the website
	Environmental education	Enhancement of environmental education programs for managers/engineers
	Environmental accounting	Establishment of environmental accounting
Environmental initiatives through our products Reduce the environmental load with environmentally conscious development and engineering.	Design for environment	1. Promotion of environmentally conscious engineering and development 2. Development of chemical substance database
	Reduction of hazardous substances	1. Complete elimination of banned substances Completely eliminate the use of lead, cadmium and hexavalent chromium by the end of 2004 2. Reduction of restricted substances
	Green procurement	Prioritizing purchases from environmentally conscious business partners
Environmental initiatives in our plants and offices Reduce the environmental load in production process and office operation.	Prevention of global warming	1. Reduction of CO_2 emissions Reduce FY2005 CO_2 emissions from energy consumption per unit of output (Note 1) by 20% from FY2001 level 2. Reduction of greenhouse gas (aside from CO_2) emissions Reduce the use of PFCs and HFCs (Note 2) at the end of FY2010 by 60% from FY1998 level
	Recycling	1. Complete achievement of zero-emissions Completely achieve zero-emissions by FY2004 2. Reduction of total amount of waste Reduce the amount of waste per unit of output (Note 1) in FY2005 by 20% from FY2001 level
	Management and reduction of chemical substances	1. Management of chemical substances Reduce the risk of contamination by promoting appropriate management of chemical substances 2. Complete elimination of ozone-layer depleting substances Completely eliminate the use of HCFCs (Note3) by the end of 2003
	Green purchasing	Promotion of green purchasing for office supplies and company-owned cars
	Logistics	Promotion of environmentally conscious logistics
	Social service activities	Promotion of activities in society supporting environmental protection

Notes: 1 Amount per unit of output: A value found by dividing the amount of CO_2 emissions or waste emissions by the value of production
2 PFCs and HFCs: Perfluorocarbons and Hydrofluorocarbons
3 HCFCs: Hydrochlorofluorocarbons
4 GWP: Global Warming Potential. Index describing the relative warming of a unit mass of a greenhouse gas in comparison to the same mass of CO_2.

Takahide Sato,
Managing Director in charge of management planning

Progress report on the Fourth Medium-Term Voluntary Action Plan for Environmental Protection

Progress toward meeting the targets of the Fourth Medium-Term Voluntary Action Plan for Environmental Protection is good overall, but Alps is behind schedule on a few items.

Alps began its efforts to earn ISO 14001 certification in 1995, and presently we have earned it at all sites except three overseas bases. We anticipate that these bases will be certified by FY2005.

Alps is assessing its suppliers as green procurement sources to meet its goal of eco-friendly design, and is constantly updating and expanding its Database for Chemical Substance Management. We are removing the substances targeted for elimination in 2004 from each of our products, one by one.

In the past year, we have chalked up some dramatic achievements in our program to help prevent global warming, not only thanks to the efforts made by our divisions, but also as a benefit of expanded production and of the cool summer in 2003. In just the first year of the medium-term plan, we nearly reached our target for FY2005. We are striving to make further efficiency improvements so that we can fully reach our goals in FY2004 and FY2005.

Under the zero-emissions category, our overall recycling rate suffered a temporary setback when expanded production at some plants led to a greater amount of wastewater, which had to be treated by outside services.

Alps reached its goal of eliminating HCFCs in 2003 by switching to alternatives. We were also able to reach our FY2010 reduction targets for PFCs and HFCs.

We will step up our efforts not only for the targets where Alps is behind schedule but also for those we have nearly accomplished.

	Results of activities in FY2003	FY2003 self-evaluation
	1. One overseas base newly acquired ISO 14001 certification Shanghai Alps Electronics (January 2004) 2. Head office staff visited and used e-mail to exchange information with production bases in Asia (China, Korea, Malaysia)	B B
	1. Environmental Report published (June 2003) 2. Information distributions on the website	B B
	Held chemical control study sessions (Japan, Asia, Europe)	B
	Aggregated costs and effects. Ran trial evaluation on overall environmental performance	B
	1. Continued performing product assessment 2. Began using the Database for Chemical Substance Management (October 2003)	B
	Worked towards this goal for each product	B
	Performed evaluations on vendors. Gave training sessions to concerned departments overseas	B
	1. CO_2 emissions per unit output: 39.3t/100 million yen 20.0% reduction from FY2001 level (progress) 19.4% reduction from FY2002 level (progress) 2. PFCs/HFCs Purchases (GWP (Note 4) conversion bases) per unit output: 36,145t 61.3% reduction from FY1998 level (progress) 20.4% reduction from FY2002 level (progress)	B A
	1. Waste recycling rate: 82.0% 2.7% reduction from FY2002 level (fallback) 2. Waste emissions per unit output: 4.76t/100 million yen 4.0% reduction from FY2001 level (progress) 0.9% reduction from FY2002 level (progress)	C C
	1. Learned emergency risks, installed equipment to prevent leaks and gave training 2. HCFCs Purchases: 43t 55.1% reduction from FY2002 level. (progress) Completely eliminated usage in December 2003	B A
	Prepared for green purchasing of office supplies in head office area	C
	Reduced hazardous substances in packaging materials. Made shipping systems more efficient	B
	Performed cleanups around various work sites	B

Self-evaluation
A: Achieved
B: Efforts proceeding well
C: Efforts behind schedule

Organization and ISO Certification Status

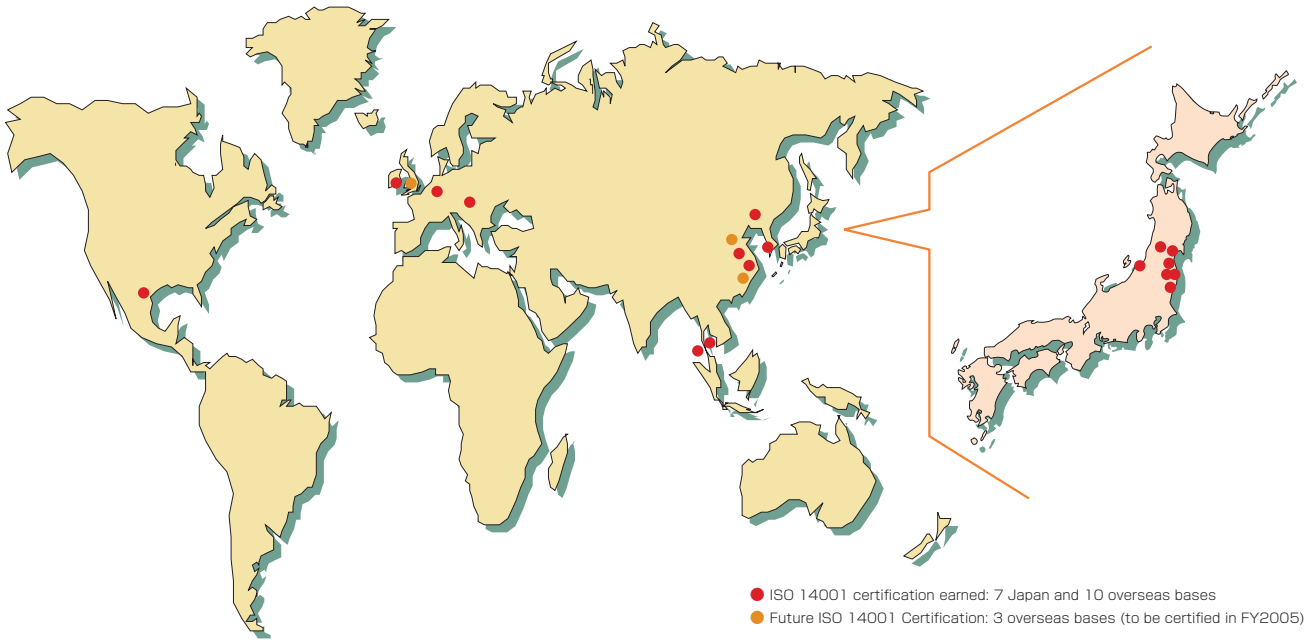
All divisions within Japan were ISO 14001 certified by FY1999. In order to expand our environmental management globally, we are putting further emphasis on environmental activities at our overseas bases and working to get them certified.

Global Management Initiatives

Just as Alps' business is expanding in markets outside Japan, it is promoting its global Environmental Management System as well.

Each production base has an environmental officer, and Alps Group members are making great effort to share information and promote communication with each other. A head office staff visits each site and gives advice to help sites maintain high standards of management.

ISO 14001 certification status



Introduction to a newly certified ISO 14001 base

Jinxing Ni,
Vice-General Manager, Quality Assurance Department,
Shanghai Alps Electronics

It was a long, slow grind to earn certification, but the greatest benefit of all was the change in consciousness among our employees.

Shanghai Alps Electronics is situated in the booming Pudong New Area on the east side of the Huangpu River flowing along one side of Shanghai. It celebrated the tenth anniversary of its founding last year. With the goal of doing more business in the rapidly growing Chinese broadcasting and communications market, it began a campaign in January 2003 to earn ISO 14001 certification. The plant succeeded in winning certification after about a year.

The company was not only working simultaneously on earning ISO 9001 and ISO 14001, but also making preparations to do so at the same time it was stepping up production-a big challenge for any company. We worked hard to translate all the special terminology, because we were writing materials in both Japanese and Chinese.

Because Shanghai Alps Electronics is located in an urban area, we are particularly careful about processing hazardous substance wastes like lead and detergents. We placed special waste containers for sorting of garbage and we control waste centrally from a dedicated waste room. An outside contractor handles the sorted wastes, but we continue to monitor the waste to confirm correct disposal.

In order to save resources, we gradually switched from cardboard packages to returnable plastic boxes to transport goods from our vendors. We also teach our workers to save energy by turning off equipment, measuring devices and computers when not in use. Lights are turned out when rooms are unoccupied.

Of all the benefits we gained by earning certification, the greatest was undoubtedly the big change in employee consciousness. We repeatedly stressed the importance of these environmental initiatives during morning gatherings, study groups and talks by outside lecturers. The amount of garbage has declined and the areas around waste containers and the garbage collection station are kept far cleaner than before.

I am determined for our environmental and quality management systems to become permanently rooted, with employees at Shanghai Alps Electronics working at a higher level of awareness.

ISO 14001 and Environmental Audits

Alps believes that the Environmental Management System specifications of ISO 14001 are a crucial tool and is endeavoring to earn this certification group-wide. All of our divisions in Japan, including our Process Technology Development Center, have completed the certification process. Our affiliates overseas are also earning certification one after another; so far 10 have done so in all. Alps expects all of its overseas production bases to have earned certification by FY2005.

Additionally, our certified bases perform internal environmental audits one or two times a year in keeping with ISO 14001 regulations.

Target bases: 20
Certified bases: 17
Percent certified: 85%

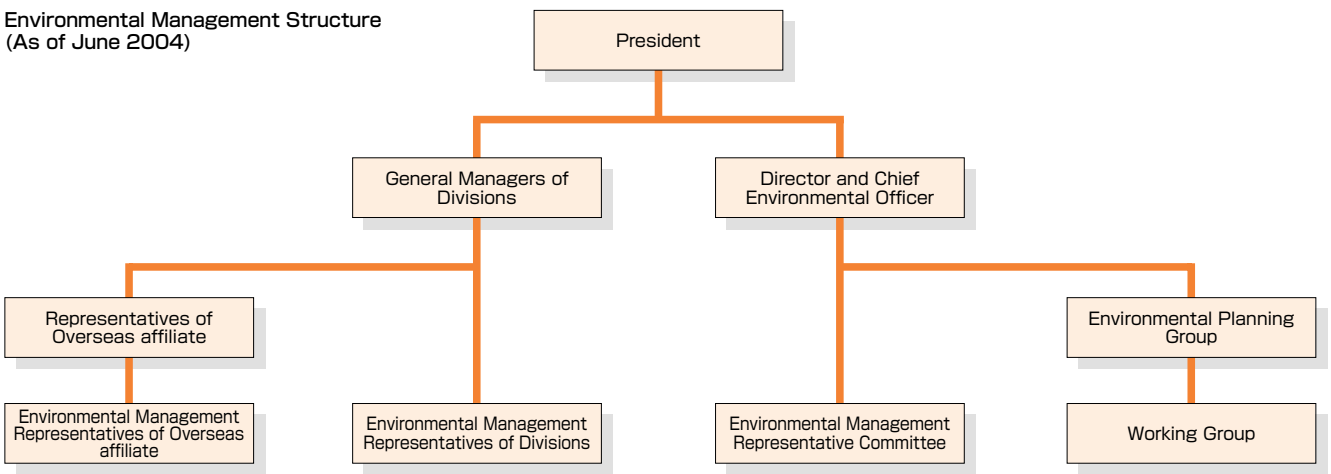
ISO 14001 certification status listing

	Business division	Registration date	Business areas
Japan	Communication Devices Division	August 14, 1998	Development and production of communications and broadcasting products
	Mechatronic Devices Division	October 30, 1998	Development and production of mechatronic components and devices
	Automotive Products Division		Development and production of automotive electronics
	Production Engineering Development Center		Production technology development, esp. die design and production, super-precision processing technology and advanced mounting technology
	Peripheral Products Division	November 27, 1998	Development and production of input, output and display devices
	Magnetic Devices Division	December 24, 1999	Development and production of magnetic recording heads
	Process Technology Development Center	March 17, 2000	R&D on new technology and new materials based on established process technologies
Overseas	Alps Electric (Ireland) Limited	April 9, 1997	Production of automotive electronics
	Alps Electric Europa GmbH Dortmund Plant	July 3, 2000	Production of component products, automotive electronics and display devices
	Alps Electric (Malaysia) Sdn. Bhd. Jengka Plant	September 12, 2000	Production of broadcasting products and input devices
	Alps Electric Korea Co., Ltd.	June 18, 2001	Production of automotive electronics, communications/broadcasting products, input devices and magnetic recording heads
	Alcom Electronicos De Mexico, S.A. de C.V.	December 6, 2001	Production of automotive electronics
	Wuxi Alps Electronics Co., Ltd.	March 20, 2002	Production of component products and magnetic recording heads
	Dalian Alps Electronics Co., Ltd.	June 14, 2002	Production of component products and automotive electronics
	Alps Electric (Malaysia) Sdn. Bhd. Nilai Plant	August 12, 2002	Production of component products, magnetic recording heads and input devices
	Alps Electric Czech, s.r.o.	January 15, 2003	Production of broadcasting products and input devices
	Shanghai Alps Electronics Co., Ltd.	January 6, 2004	Production of communications/broadcasting products

Organizational Structure for Environmental Activities

Our environmental policies and strategies are set by the Environmental Management Representative Committee, the Chairman of which is the Director and Chief Environmental Officer, and also in consultation with the Board of Directors Meeting when necessary. Policies and strategies decided in this process are put into effect throughout the company through general managers of each business division with the assistance of environmental management representatives.

Environmental Management Structure
(As of June 2004)



Environmental Accounting, Legal Compliance and Training

The following reports describe each element of the Environmental Management System

Environmental Accounting

Alps introduced our environmental accounting [Note1] system in 2000 following the guidelines of the Ministry of the Environment to monitor our environmental costs and associated economic benefits.

Both the investment expenditure and cost expenditure portions of FY2003's environmental costs [Note2] rose. These increases stemmed from the replacement of equipment, the adoption of new methods for cleaning soil and groundwater, the introduction of the Database for Chemical Substance Management, and other expenses.

The economic benefits [Note3] derived in FY2003 were greater than those of FY2002 as environmental protection activities developed and business activities expanded.

Notes: 1 Environmental accounting covers only Alps Electric Co., Ltd. in Japan, and not the Group as a whole.
2 Environmental costs are the total of all investments and costs whose chief purpose is protection of the environment. The total of each such investment or cost is used; the total is not allocated between environmental purposes and other purposes.
3 Economic benefits include sales of wastes that have been separated, recovered and recycled, and electric, fuel and other cost savings resulting from energy conservation. Economic benefits do not include expected effects, e.g. increases in sales resulting from making products lead-free.

Environment Costs in FY2003

(Unit: Millions of yen)

Classification	Main Objective	Environment costs	
		Investment [Note1] (FY2002)	Cost [Note2] (FY2002)
Operation costs	Pollution prevention, waste product recycling	164.2 (102.1)	531.0 (547.5)
Upstream and downstream production costs	Green Procurement, supply chain management	15.1 (35.9)	270.8 (22.4)
Management activities costs	ISO 14001-certified maintenance	0.3 (0.1)	160.1 (150.7)
R&D costs	Developing lead-free products	0.0 (0.0)	22.2 (36.5)
Social activity costs	Community cleanup activities	0.0 (0.0)	17.4 (9.8)
Cost of rehabilitating environmental damage	Groundwater remediation	66.3 (1.6)	190.2 (169.8)
Others	—	0.0 (0.0)	0.0 (0.0)
Total	—	245.8 (139.8)	1191.6 (936.8)

Notes: 1. Investment includes both capital investment and total leasing expenses.
2. Costs include maintenance and administration costs, depreciation and amortization costs, and lease costs for relevant fiscal year.

Economic Benefits of Environmental Protection Measures in FY2003

(Unit: Millions of yen)

Classification	Value (FY2002)
Profit on sales of resources with monetary value	1239.4 (863.0)
Cost reduction as a result of energy saving	41.3 (26.8)
Total	1280.7 (889.8)

Legal Compliance

Alps seeks to comply with laws and regulations by first establishing voluntary standards that are more stringent than laws established by national governments.

An adjustment error during electrical generator maintenance at the Nagaoka Plant of the Magnetic Devices Division in FY2003 led the plant to emit nitrous oxides (NOx) in excess of regulations, but Alps took immediate action to prevent the recurrence of such an incident.

Alps did not experience any environmental accidents in FY2003, nor was it the subject of any environmental fines or legal action.

Environmental Training

Alps Electric (UK) environmental training

Alps provides environmental training to its employees, selecting content relevant to each employee's job. Specialized training, including that of internal environmental auditors, is also given at the division level. Training methods vary, particularly at manufacturers outside of Japan, since legal requirements and customs differ by country or region.

All employees at Shanghai Alps and Alcom Electronicos De Mexico undergo environmental training. The Nilai Plant of Alps Electric (Malaysia) provides four hours of environmental training each month in small groups of 10 - 15 people. The Jengka Plant of Alps Electric (Malaysia) gives environmental training to new staff as well as to vendors. Finally, Alps Electric (Ireland) has put up an environmental bulletin board and encourages employees to begin easy environmental actions at home, such as composting food waste and saving energy.

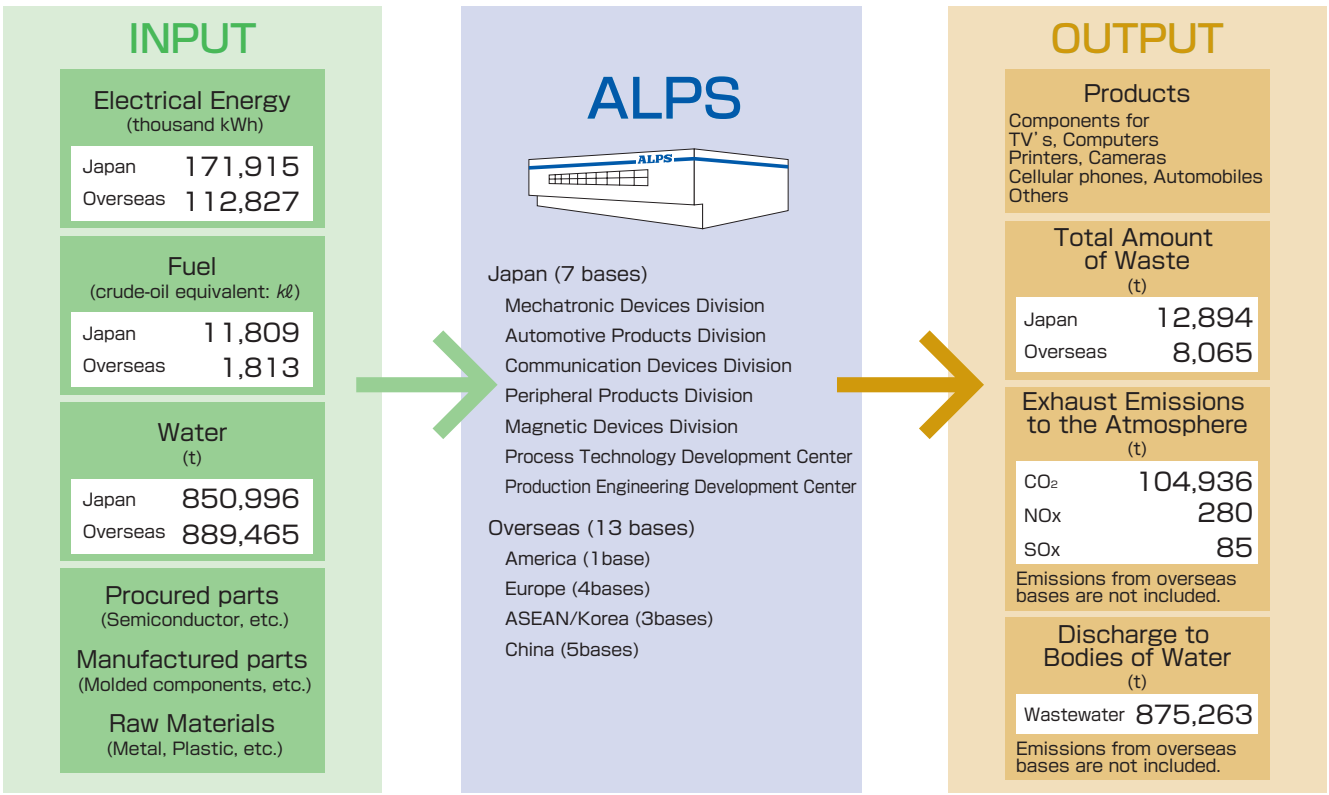
Status of Environmental Load

As Alps expands worldwide, it takes increasing account of environmental load.

Material Balance (Inputs and Outputs Diagram)

Since last year, we have included data from overseas bases in our diagram of inputs and outputs.

However, the laws and environmental assessment procedures vary overseas, so it has taken longer to get quantitative data than it does in Japan. The overseas environmental load generated by our activities becomes more significant as we expand abroad. We will continue our efforts by increasing the range of categories for which we collect data and using this data to reduce environmental load.

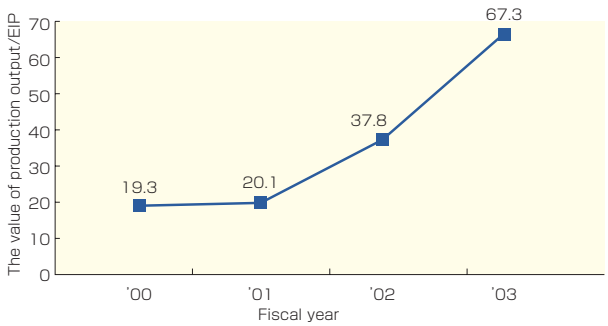


Assessing Environmental Impact with JEPIX

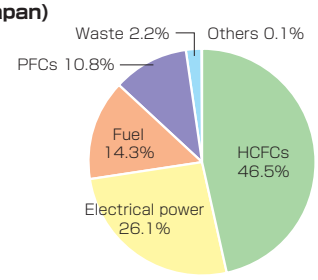
Alps is testing the Environmental Policy Priorities Index for Japan (JEPIX) as an indicator of our environmental performance.

JEPIX uses a single unit called the EIP to measure an enterprise's environmental impact quantitatively. The existing European-style assessment technique was not well suited for evaluating corporate activities in Japan, as a part of 21st Century COE Program of the Ministry of Education, Culture, Sports, Science and Technology, a team led by Professor Nobuyuki Miyazaki of International Christian University developed an index reflecting the relative priorities of environmental policies in Japan. We had improved our Eco-efficiency 78% in FY2003 over that of FY2002.

Eco-efficiency (Japan)



FY2003 Environmental Category Balance of Environmental Impact (Japan)



Waste Reduction

Alps has set a goal of achieving zero-emissions not only of industrial waste but also ordinary waste in Japan. Overseas, we are endeavoring to promote recycling and reduce wastes.

Initiatives to Recycle and Reduce Wastes

All of Alps' divisions in Japan are pursuing zero-emissions* programs with the goal of recycling all emissions they release by the end of FY2004. On principle, "emissions" means everything released (see note) by the company that is not a product and includes ordinary wastes from our divisions, cafeterias, and so on, as well as wastes from production lines.

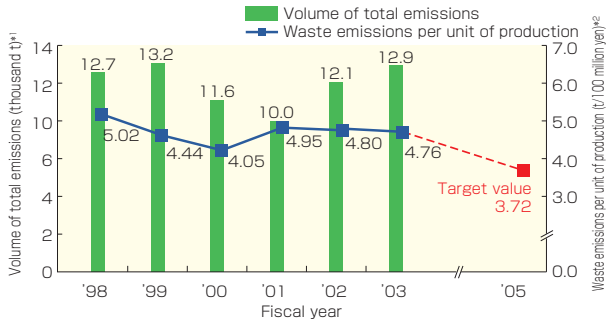
Additionally, by FY2005 we aim to reduce total waste emissions per unit of production by 20% from the figures for FY2001. We have directed our production bases to exchange information about their activities so that we can address the issue in unison.

Overseas, the rate of recycling is still rather low at some bases because of various problems, such as the lack of established recycling routes. All production bases, however, are sorting their emissions and initiating recycling, starting with those materials that are the easiest to recycle.

*Zero-emissions: Reducing emissions to the very minimal amount within a system of linked industries as a whole. This is done by building new industry links so that the waste of one industry can be used as a resource (raw material) by another industry. The United Nations University has advocated this idea.

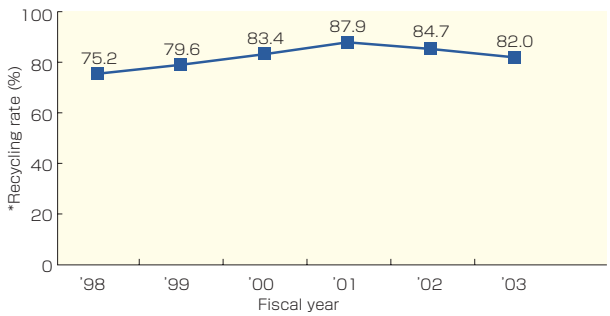
Note: Certain types of emissions are exempt from this initiative, such as emissions that could lead to greater environmental burdens when processed and those that are technically difficult to recycle. Exemptions have to be approved by the Environmental Management Representative Committee, and the exemption is reconsidered after 1 year.

Waste Volume (Japan)



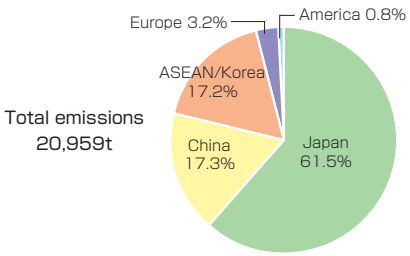
*1. Volume of total emissions: Total waste for disposal and resale, discarded externally as unneeded material.
*2. Waste emissions per unit of production: Total waste emissions divided by the value of production.
In the previous fiscal year we used a value derived by dividing only the amount of work sent to contractors by the production value, but we have since revised the calculation method.

Recycling Rate (Japan)



*Recycling rate: Proportion of recycled waste to the total volume of emissions

Total Emissions (global)



Initiatives around the world

Japan

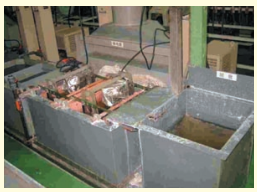
In FY2003 our Magnetic Devices Division stepped up production sharply, a development that increased the amount of waste fluids to a level beyond our processing capacity. Consequently, Alps contracted with an outside business to process approximately 1,700 tons of waste fluids. This brought down the recycling rate for Alps as a whole to 82%. However, in the latter half of FY2003 we also started to benefit from upgrades of our processing equipment, and our capacity to handle these wastes will be complete in FY2004.

Initiatives in our other divisions are going well. Our Process Technology Development Center boasts a 100% recycling rate for industrial waste and 90% for ordinary waste. The Soma Plant of the Communication Devices Division has achieved a recycling rate of 99.8%, better even than last year's 99.4%, while the division's Kakuda Plant has also reached 99.8%.

Total waste emissions were 12,894 tons.

China

Dalian Alps Electronics, where there is a plating process, is working to recycle liquid copper. Additional improvements to the production process have led to a decrease in the amount of liquid copper used by 5kg per month without any loss of product quality.



Recycling of liquid copper

Of the 10 tons of paper and cardboard emitted annually, 9.7 tons are recycled, leaving just 0.3 tons going to final disposal. Each year 1,257 tons of metals are recycled out of a total of 1,260 tons emitted, leaving three tons going to final disposal. We have also been able to recycle 180 tons of runner, the scrap that results from the plastic molding process.

ASEAN/Korea

The Nilai Plant of Alps Electric (Malaysia) has eased waste sorting for employees by displaying photos or drawings of wastes at their sorting boxes. This has resulted in a 5% drop in the amount of waste going to final disposal through December 2003.

Europe

The Dortmund Plant of Alps Electric Europa puts out sorting boxes to reduce waste and recycles metal scrap. Packaging cardboard is first compressed and then recycled internally.

Cardboard compactor

America

Alcom Electronicos De Mexico recycles cardboard, wooden pallets, resin waste from the molding process, substrate panel scraps, plastics, solder dross and more.

Global Warming Prevention (Energy Conservation)

Steps like saving energy day to day and improving equipment are ways that Alps as a whole works to prevent global warming.

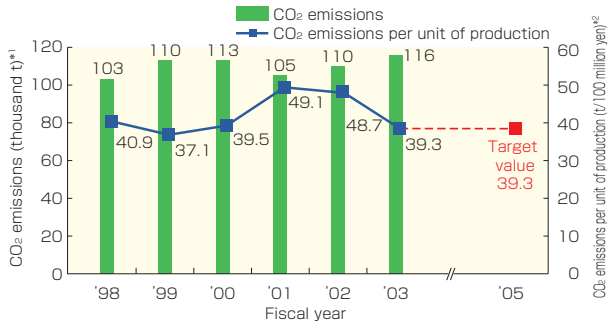
Initiatives to Save Energy and Reduce Greenhouse Gas Emissions

Reducing the release of CO_2 and other greenhouse gases to the atmosphere is critical to preventing global warming.

Alps is cutting electricity usage, an integral part of reducing CO_2 emissions, but it is also striving to boost production efficiency while introducing energy-saving equipment. PFCs and HFCs* are the other greenhouse gases with which Alps is primarily concerned. Alps is actively studying alternatives to these substances in order to reduce the volume used.

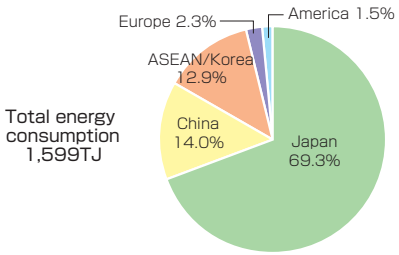
*PFCs and HFCs: perfluorocarbons and hydrofluorocarbons respectively. They have a strong greenhouse effect, although they do not contain chlorine and do not attack the ozone layer.

CO_2 Emissions (Japan)

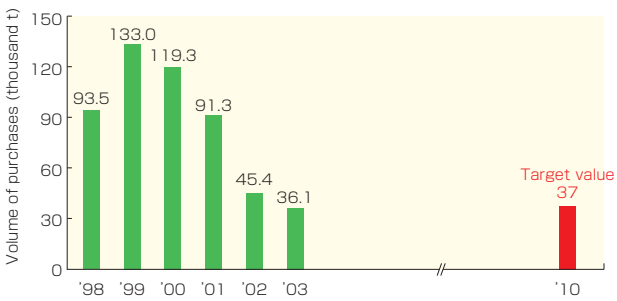


*1. The combined amount of CO_2 emitted by Alps and associated companies.
*2. CO_2 emissions per unit of production: Total CO_2 emissions divided by the value of production.

Energy Consumption (Joule conversion bases) (global)



Purchased Volume of PFCs/HFCs (GWP* conversion bases) (Japan)



*GWP: Global Warming Potential. Index describing the relative warming by a unit mass of a greenhouse gas in comparison to the same mass of CO_2.

Initiatives around the world

Japan

As for CO_2, our goal is to reduce emissions resulting from energy consumption by 20% per unit of production by FY2005 as compared to FY2001. Emissions in Japan for FY2003 were 39.3 CO2-t for every 100 million yen in production value, representing a 19.95% reduction since FY2001, thus practically reaching our goal. By increasing machine running-time percentage as production has risen, and by introducing amorphous transformers* and working persistently to save energy, these efforts have succeeded. Other factors believed to have contributed to the energy savings include a cool summer and a greater sense of awareness of energy conservation in the face of an electric power crunch. Alps will continue its endeavor to save energy as it works toward achieving its targets.

Alps has made strides toward its goal for PFCs and HFCs, which is to use 60% less than the FY1998 level by the end of FY2010. We have already achieved this target, because our usage in FY2003 was 61.3% less than the amount in FY1998. The Peripheral Products Division managed to eliminate usage completely, while at other divisions the total usage of a few tons represents a decline or a steady level of usage. Alps will sustain these efforts to reduce usage continuously.

*Amorphous transformers: When a solid does not have a crystalline structure, it is called amorphous. Transformers that use amorphous alloys experience less electricity loss and help to limit energy consumption.

China


Wuxi Alps Electronics steam ducts

Dalian Alps Electronics has improved its electrical equipment and stepped up control of it, such as by increasing the transformer usage rate and reducing idling. This has resulted in an improvement by about 300,000 kWh. The site has taken other action as well, such as informing other sites of Dalian Alps Electronics' energy savings to raise their awareness, and establishing an "Improvement Award" for enhancing equipment efficiency.

Wuxi Alps Electronics has stopped using boilers, instead getting steam from outside sources. For that reason, the factory is no longer emitting the air pollutants that stem from boiler use, plus the site has reduced usage of water and fuel oil.

ASEAN/Korea

Alps Electric Korea is saving energy by putting timers on electricity-using devices in employee break rooms, shops, changing rooms and so on. Ventilation improvements have boosted heater and cooler efficiency, reducing electrical power consumption by 10%.

Europe

Alps Electric (Ireland) turns off all devices and lights when not in use, for example, timers installed on air conditioners. It participates in the Maximum Demand scheme* of the Electricity Supply Board of Ireland It also performs careful maintenance and control to assure there are no air leaks in equipment.

*Maximum Demand scheme: A strategy of the Electricity Supply Board to cut corporate energy use during peak demand periods.

America

Alcom Electronicos De Mexico has added condensers to its transformer substation, raising its power factor* from 0.89 to 0.96. It has raised the overnight temperature setting for its chillers from 5° C to 8° C, which cuts condenser usage by 33%.

*Power factor: The ratio of electrical power effectively used to the total electrical power supplied. It is an indicator of electricity usage efficiency. The higher the power factor, the more effectively the site is using the electrical power supplied.

Environmental Risk Management

By strictly managing chemicals and waste emissions, Alps is working to prevent accidents and reduce the risk of pollution.

Chemical Substance Management

Chemicals are indispensable to industry, but they also bear the risk of serious environmental damage if improperly used or managed. Alps has established an Environmentally Hazardous Substance Control Standard governing chemicals that the Group uses in products and processes in Japan and abroad. To this it has added the intranet-based Supporting System for Managing Chemical Substances Contained in Products, which allows our bases around the world to share information through our Database for Chemical Substance Management. (See page 17.)

Alps has worked to replace ozone-depleting HCFCs*1 with water-based solvents, and through these efforts, all of our bases around the world have reached our goal of eliminating HCFC usage by the end of FY2003.

Alps closely manages end-of-life devices to prevent release of PCBs*2.

PRTR is the system by which we determine where these various hazardous substances are emitted from, add up how much of each is released into the environment and how much is transported off-site within waste material, and then announce these data publicly. Businesses that manufacture or use the target chemicals must collect this data for themselves and report it to a government organization once per year. This system is now in place in several nations, and was enacted in Japan in 1999 by the PRTR Law. Following the PRTR Law, Alps will continue to report to the government and will store and manage chemicals properly.

*1 HCFCs: hydrochlorofluorocarbons. This class of fluorocarbons is used as a substitute for chlorofluorocarbons (CFCs), but is subject to the regulations of the Montreal Protocol and are to be taken out of production by 2020.

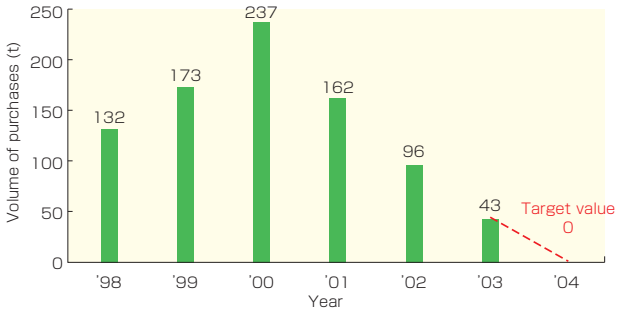
*2 PCBs: polychlorinated biphenyls. Japan's Law for the Appropriate Treatment of PCBs, in effect since July 2001, requires businesses to report on their storage and disposal of these chemicals and to dispose of them appropriately.

Results of Survey of PRTR Substances (Japan)

Unit: t/year (except for dioxins)
μg (Microgram; 10-6g) for dioxins.

Objective Volume	Volume	Emission volume		Transferred volume	
		Air	Water	Waste	Sewage
Inorganic cyanide compounds	8.1	0	0	0.5	0
Nickel	11.7	0	0	0.1	0
Nickel compounds	5.8	0	0	2.4	0
Silver and its water-soluble compounds	9.7	0	0	0.1	0
Dioxins	—	74	0	0.0	0
Lead and its compounds	2.8	0	0	0.3	0
1,1-Dichloro-1-fluoroethane	28.6	25	0	3.6	0
Ethylene glycol	6.0	0	0	6.0	0

Purchased Volume of HCFCs (Japan)



Initiatives around the world

Japan

Substances subject to the PRTR Law are reported to the government as required by law. Purchases of HCFCs were 43 tons in FY2003, but usage was eliminated as of December 2003. PCB control is effected by carefully storing end-of-life devices, such as high-voltage condensers (32 units) and fluorescent tube ballasts (approximately 2,100 units).

China

One of the processes at Dalian Alps Electronics is plating. This uses such chemicals as acetone, cyanide compounds, oils, alcohol, sodium carbonate and argon. The company clearly designates officers responsible for the usage, release and storage of those chemicals that are hazardous and has established numerous rules regarding them. As a countermeasure to theft, the site designates storage and release areas and controls them through a communications network with the public safety department. It uses MSDSs* to educate staff members.

Dalian Alps Electronics hazardous waste storage area

*MSDSs: Material Safety Data Sheets. For a company to manage chemicals properly, it has to know the composition, properties and handling methods for chemicals that it handles and the products containing those chemicals. When a business ships such chemicals or products to other businesses, it uses MSDSs to provide information on the chemicals to the other party.

ASEAN/Korea

The Jengka Plant of Alps Electric (Malaysia) uses solder and a number of VOCs*. It manages these chemicals in keeping with legal regulations and is inspected periodically by officials.

*VOCs: Volatile organic compounds found in thinners, toluene, etc.

Europe

Alps Electric (Ireland) uses flux, solder, ethylene glycol and a variety of VOCs, among other substances. It keeps a list of such chemicals used in its plants. Before any of these chemicals can be used, it requires the approval of a control officer, and the company is taking steps to use hazardous substances as little as possible. A licensed contractor hauls hazardous waste away to an incineration facility.

America

Alcom Electronicos De Mexico uses paints, thinners, hardening agents, alcohol, flux, solder, lubricants and other substances, but only keeps the minimal amount necessary at its production site. By adjusting product specifications, it has reduced VOC releases and is in compliance with Mexican gas emissions standards. Additionally, its Safety Committee is constantly training all employees and inspectors to reduce risk.

Prevention of Soil and Groundwater Pollution

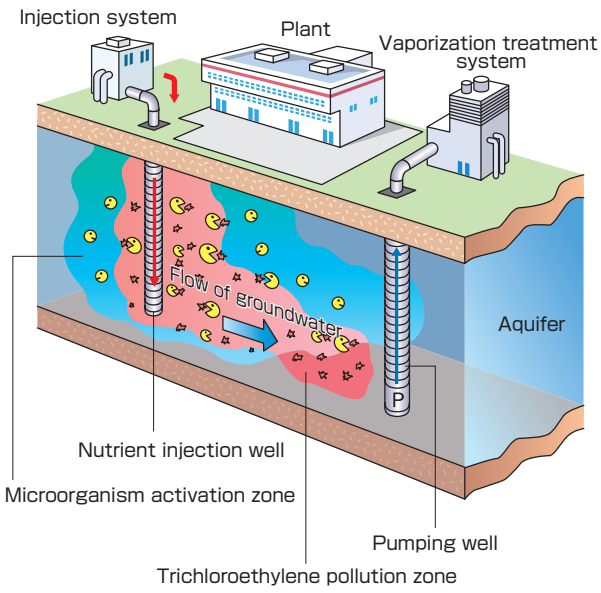
In 1999, Alps discovered that an organochloride compound from four of its plants in Japan had caused soil and groundwater pollution. In response, we immediately began cleaning up the pollution by implementing a process in which groundwater is pumped up and activated carbon filters capture the pollutants.

In October 2003 the Furukawa Plant added an anaerobic bioremediation process to its existing soil pollution countermeasures to make the cleanup more efficient and to return the concentration of pollutants to within the legal limits.

Key to this process are varieties of anaerobic soil microorganisms that can break organochloride compounds down to ethane and ethylene. By injecting nutrients directly into the groundwater, the process cultures microorganisms native to the site, thus accelerating the breakdown of the pollutant. This processing does not generate any hazardous intermediate products, and its two- to three-year cleanup timeframe is expected to be much faster than the pump-up method used until now.

Nutrient injection well (Furukawa Plant)

Diagram of Anaerobic Bioremediation Process



Risk Management (Prevention of Environmental Pollution)

Alps operates a comprehensive risk management system at each plant in order to prevent environmental pollution by accidents such as leakage of chemicals.

These systems include oil fences for containment of substances such as heavy oil, and systems to manage, analyze, and detoxify effluent from plating plants, as well as replacing underground pipes with above-ground pipes, distributing emergency instructions, and restricting admission into chemical storage depots.

Chemical tank and leak reservoir (Furukawa Plant)

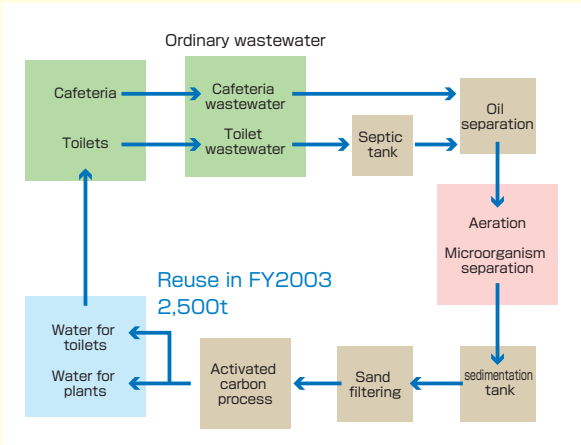
Wastewater standards in Liaoning Province, China tougher than those in Japan

Dalian Alps Electronics is home to a plating process, and Liaoning Province China, where the factory is located, has standards for direct wastewater emissions to marine areas that obligate the plant to meet class 1 emissions standards. Wastewater countermeasures are, thus, particularly important at this site. While Japan has a wastewater standard of 160mg/ℓ COD*, Dalian Alps Electronics must keep its emissions within 100mg/ℓ COD. To do so, it keeps ordinary wastewater separate from plating effluent, which has very different characteristics. Each waste flow is processed separately at its own treatment station.

Ordinary wastewater undergoes advanced processing with activated carbon, then is reused to fill toilets or to water plants on the factory grounds.

*COD: Chemical oxygen demand. This is an indicator expressing the amount of organic matter contained especially in salt water. A high COD means that there is a large amount of water pollution caused by organic matter.

Dalian Alps Electronics water treatment process



Development/Design and Logistics

Reducing environmental burdens, from the design and development stages to shipping.

Stance on Design and Development

Our Corporate Philosophy is, "Alps creates new values that satisfy stakeholders and are friendly to the earth," and this underlies our effort to create products in harmony with the global environment. Our company-wide activities started in 1993 with the establishment of the Products Working Group. Since then, we have been promoting environmental activities, such as product assessment in each division.

Alps strives to develop products that are smaller in size and lighter in weight, and that consume less electric power during manufacture and use. We also make our best efforts to minimize the generation of hazardous substances during usage and at the time of disposal.(See page17.) In the "pursuit of the ultimate in fine electronic devices", we have struck a good balance of price and function. Our products are both unique and environmentally friendly.

At right, we give an example of this in the batteryless Tire-Pressure Monitoring System developed at the Automotive Products Division.

Initiatives in Logistics

Alps is pushing to improve packaging and other aspects of logistics in order to mitigate the environmental burden of shipping.

The pallets used to carry merchandise conform to the world standards set according to the ISO standard. As a result, trucks and seagoing containers can be loaded more effectively and pallets can be reused more often in other parts of the world. Alps has standardized the sizes and materials of its packing boxes based on the pallet size standard, which reduces the varieties of boxes used and the amount of paper as well. Alps has banned the use of cushioning foam in its packaging materials. We have reduced hazardous substances in packaging in other ways as well, as by switching from colored to clear tape to seal external cases. In addition, Alps is reducing or eliminating wasteful packaging such as cushioning cardboard and strapping bands from packing boxes and streamlining our logistics process.

Part of this program is to make our transportation systems more efficient. In the past, we sent products from the factory to regional shipping centers, where they were stored until delivery to the customer. Now, however, we have begun to ship products to customers directly from the factory. This reduces both the need for intermediate storage facilities and the customer's waiting time for shipments. An additional advantage is the shorter total shipping distance, which means that we consume less truck fuel and generate less pollution.

Assuring safety while cutting environmental burdens Bringing batteryless TPMS to market quickly

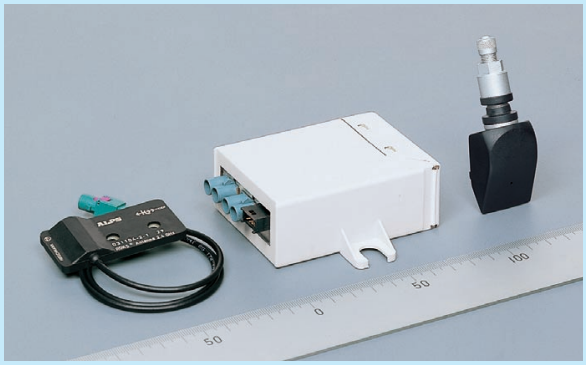
Tire-Pressure Monitoring Systems (TPMS) have been an obligatory safety measure on all automobiles sold in North America since November 2003. There is also a strong movement toward similar requirements in Europe and Japan.

In the past, such systems have required a battery in the tire area in order to send pressure and temperature sensor readings. Batteries, however, cannot perform stably under harsh temperatures and have a limited lifespan, so the reliability of such systems has been an issue. Besides, battery weight and centrifugal force during operation alter tire shape and cause air loss, a new safety issue. The chemicals used in batteries are another environmental concern.

Alps' batteryless TPMS was developed under an exclusive license for the patent and technology of the German firm IQ-mobil. This technology uses just the radio signal energy from a central transceiver to induce a transponder to return readings from the pressure and temperature sensors. The transponders weigh just six grams and endure a wide range of temperatures, −40℃～+150℃.

The technology has passed US and European tests for radio wave law compliance and development is now complete. Alps is now moving the technology into mass production, assessing the impact of driving conditions and tire varieties, and is planning to complete tests in various regions of the world.

In developing batteryless TPMS, Alps is taking advantage of the unique high-frequency wireless technology it has fostered over many years as an electronic components manufacturer and is also employing its experience as an automotive electronics manufacturer. We look forward to developing the technology further and expanding this business globally through technical collaborations with the world's leading tire and valve manufacturers.



From left, antenna, central transceiver, transponder

Gentle to the earth, strict on hazardous substances

Alps' bases in Japan and abroad are eliminating hazardous substances through common standards and systems. Together they are working to live up to global standards.

It is becoming a global standard to create products without using substances hazardous to human health or the environment. The RoHS Directive*, when it comes into force in 2006, will ban the use of six substances including lead and cadmium in electric and electronic equipment in the European Union. Because of this, major electric equipment manufacturers in Japan and elsewhere are leading an accelerating effort to restrict hazardous substances. For its part, Alps has set three basic principles regarding such hazardous substances: No purchases, no use, and no inclusion. We meet the needs of our customers under strict supply chain management according to these rules. Alps is taking the lead in anticipating restrictions on hazardous substances as part of its duty as a manufacturer of general electronic components.

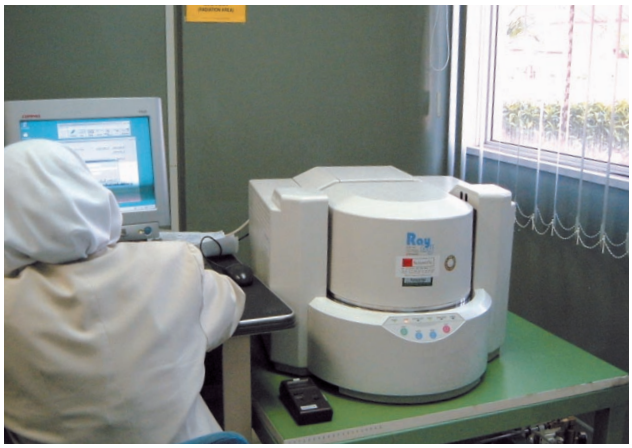
*RoHS Directive: A directive banning the use of six substances-lead, mercury, cadmium, hexavalent chromium, PBBs (polybrominated biphenyls) and PBDEs (polybrominated diphenyl ethers)-in electrical products handled within the European Union (EU); will take effect in July, 2006.

A consistent standard for vendors worldwide

Typically, green procurement refers to the act of purchasing products and raw materials that are environmentally friendly. For Alps, it means purchasing components and materials that contain absolutely no prohibited substances. Alps has long-established Green Procurement Prescript, and in September 2002 we started distributing our Green Procurement Guidebook to approximately 3,000 vendors.

In July 2003 we moved to further tighten supply chain management by revising our Green Procurement Prescript and establishing a new Green Procurement Standard. As a global corporation, Alps is applying this standard in its dealings with vendors around the world. In addition to assessing vendors' environmental measures, the new standard goes beyond the guidebook by naming chemical content subject to assessment and their tolerance levels, specifying measuring methods, and using binding force to assure that the rules are followed. Moreover, Alps asks each vendor to sign a statement of mutual agreement guaranteeing that it does not use any of the substances banned by our standard in any components supplied to us. So far, about 450 vendors have complied.

Green Procurement Standard (from left, Chinese, English, Japanese)



An Alps Electric (Malaysia) staff member in charge of analyzing component and material composition

Vendor assessments are divided into two types: an assessment of the enterprise itself, and an assessment of its products and materials. For the business assessment, we rank each vendor on a four-point scale, based on results of a self-assessment from the vendor for each production and their ISO 14001 and ISO 9001 certification status. In the products and materials assessment, we examine the composition of procured components and materials.

Database for green procurement

Alps has created a Database for Chemical Substance Management that allows centralized control over 2,000 vendors and some 350,000 components and materials procured. This database enables our departments around the world to share information and is searchable via our intranet. Besides the types and volumes of chemicals contained in components and materials, this database includes the results of business assessments and the state of each vendor's environmental initiatives. It also stores formatted information for responding to requests from customer firms. Each department, whether it is engaged in design, production, purchasing or sales, can get just the information it needs. Our database has proven to be extremely useful for promoting green procurement.

Beyond the RoHS Directive: assuring traceability for 41 substances

Many Japanese manufacturers see Europe as a crucial market and therefore they set the policies to prohibit lead, cadmium and other substances from nearly all products in order to meet the RoHS Directive.

For its part, Alps has specified 41 chemical groups, including the six RoHS substances, to be measured in components and materials and traced through the product's life cycle. Alps also creates systems to deal with other substances as our customers require.

Interacting with Local Communities

Interaction with the local community is indispensable to our business.
Alps strives to be a good corporate citizen while respecting our employees' autonomy and taking to heart what nations and communities need from us.

Bringing Monozukuri to Future Generations (Japan)

Alps believes that bringing the wonder and joy of Monozukuri-the craft of making things-to young people is one of our most important social responsibilities as a manufacturer.

Alps organizes factory tours and handicraft classes for children and their parents.

In FY2003, the Education Committee of Ota Ward, Tokyo, site of our headquarter, held a "Monozukuri Science School" for elementary and middle school students where we sent instructors to the event. These instructors used hobby kits, not just having the children assemble them but showing them also how to use tools and explaining the principles and mechanisms by which the kits work. This event nurtures the child's natural love of science.

We will continue our effort of providing opportunities for Monozukuri exeperience to the local community.

Students concentrate on assembling their projects.

Kenji Kawamura,
Supervisor for Management Planning, Human Resources Group

Our hope is to stimulate children with the wonder of Monozukuri.

At first I was unsure that children of the TV game generation would really have any interest in learning about Monozukuri, but we received more applications than we had planned for.

I was impressed by the gleaming eyes of the children even as they struggled for the first time with solder and got their hands soiled with adhesive.

As I watched the joyous looks in their faces, I became more confident about entrusting the future of our technology-dependent nation to a generation of children who love Monozukuri so much.

Hand in Hand with the Local Community (Ireland)

Alps Electric (Ireland) contributes to the local community by donating proceeds from our printer toner cartridge recycling program to a children's hospital, sponsoring local parades and providing scholarships. Many employees, moreover, are active members of local sports clubs.

A women's soccer team consisting of Alps employees

Lessons Learned on the Job are Sheared to Community (Mexico)

In the current fiscal year, Alcom Electronicos De Mexico has provided environmental training at local elementary schools as part of its environmental initiatives. Students studied a wide range of topics, including water quality protection, recycling processes and energy conservation. Last year approximately 540 students participated, and the company plans to continue providing lessons this year.

Alcom Electronicos De Mexico also donates equipment and notebooks to local schools and helps clean up a park on River Day.

Alps instructors with elementary school students and teachers

We Protect our River (Korea)

Alps Electric Korea's "one company, one river" is a program that cleans up and conserves a local river. Presently, four times a year, the company organizes training on the purpose and nature of the activity and leads an effort to pick up trash in the river bank. This is also a good chance for employees to intermingle who would ordinarily have little interaction with each other.

Members of Alps Electric Korea picking up trash

Inbok Na,
Engineering Dept2, Group 2, Alps Electric Korea

Participation is rewarding and refreshing!

The season just at the end of winter is rather busy, so to tell the truth I hesitated to take part in the "one company, one river" campaign. But once I jumped in, the other employees took me right in and soon I was hard at work, sweating and helping to clean up with shovel in hand.

Having got through one part of the job, I realized the area we had gone through now looked so neat. This inspired me to try to do a better job of keeping my work area cleaner.

Communication with Society

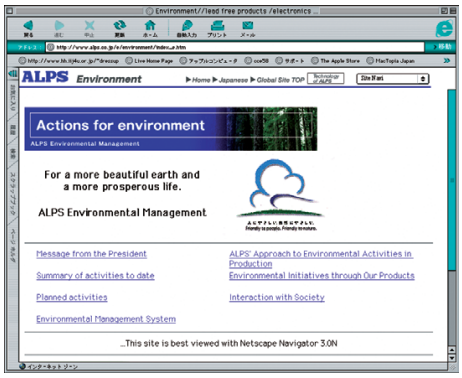
Alps is fostering communication with people around the world through our Environmental Report, web site and PR magazines.

Information Disclosure

Alps regards information disclosure as one of enterprise's most important responsibilities to society. We disclose information pertaining to the environment through such means as this Environmental Report, our web site, and the Alps Report, a publication for shareholders.

Our web site makes back issues of the Environmental Report and the Alps Report freely available to anyone who wishes them.

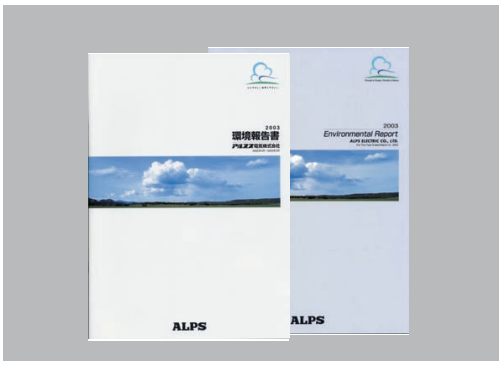
Web page "Actions for environment"



http://www.alps.co.jp/e/environment/index_e.htm

Environmental Report

Debuting as the Environmental Pamphlet in 1997, the Environmental Report has come out under its current title each year since 1999.



The Annual Report and Publications for shareholders Alps Report

Alps offers a web page covering environmental activities of the Group.

Following are our replies to some of the questions and comments received after our 2003 report.

Q1: I'd like to see you report in more detail on your reductions of hazardous substances.

A1: Alps has established an Environmentally Hazardous Substances Control Standard that sets the rules for chemicals used in processes and products. We have included a special section on green procurement as part of our effort to reduce hazardous substances in products.

Q2: I think your report should have a table of contents.

A2: This year we have included a table of contents, which had been omitted last year.

Timeline of Alps' environmental activities

April 1989	Establishment of CFCs Committee
April 1991	Establishment of Environmental Protection Committee and working groups
July 1993	Elimination of the use of specified CFCs
October 1993	Elimination of the use of trichloroethane
October 1993	Establishment of Environmental Planning Department
December 1993	Elimination of the use of specified brominated flame retardants
May 1994	Formulation of Environmental Protection Charter and First Voluntary Action Plan for Environmental Protection
May 1995	Started employee educational programs using company-produced videotapes and pamphlets
April 1996	Establishment of Environmental Management Representative Committee (reformed from Environmental Protection Committee)
November 1996	ISO 14001 certification of the System Devices Division (later merged with Peripheral Products Division), the first for Alps
February 2001	"Zero-emissions" designated as a company-wide policy in Japan
March 2001	Elimination of the use of organochloride compounds
July 2002	Establishment of Green Procurement Prescript
July 2003	Production and distribution of Green Procurement Standard in three languages
December 2003	Elimination of HCFCs usage from manufacturing processes at bases around the world

Editorial Postscript

Producing this year's Environmental Report reminded us of the warm support so many people have expressed for Alps' activities. For one, without the cooperation of our vendors, our labors for environmental design and green procurement could never have been successful. Additionally, employees at our overseas bases have provided needed information, but some employees in particular have shown surpassing concern for society and the environment.

Alps considers it its mission to provide high quality components to the set makers that are its customers. This is another reason why green procurement is covered so extensively in this report. While it is difficult to explain our activities adequately in such limited space, we do strive to provide an informative report. We welcome comments and questions that will help us to do this.

(Environmental Planning Group)

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Cover Message

The cover of this year's report features a photograph of the earth as seen from space. It is Alps' desire always to be mindful that we are passengers on Spaceship Earth as it sails through this dark sea. It is this limited earth and the people who live on it that make our manufacturing activities possible. Alps hope to continue this journey with the planet and its people as we play our part as a global citizen.

The environmental symbol shown in the upper right consists of three major elements of the environment: air, water and soil. This symbol was chosen among many entered by Alps members.

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