




# Environmental Report 2005


**FURUKAWA ELECTRIC**

# Contents


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	Editorial Policy	2
	Business Bases Covered by this Report	


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	<b>Message</b>	3
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	<b>Environmental Performance</b>	5
	Targets and Performance of Environmental Management	6
	Environmental Management Activities	7
	Impact on the Environment by Furukawa Electric	8
	Zero-Emission Activities	9
	Prevention of Global Warming	10
	Chemical Substance Management	11
	Green Activities	12
	Recycling Activities	13
	Eco-Design Activities	14
	Environmental Risk Management	15
	Environmental Accounting	17
	Environmental Preservation Performance Indicators	18

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	<b>Social Performance</b>	19
	Social Contribution Activities	20
	Human Resources, Safety, Health and Compliance	21
	Environmental Education and Enlightenment Activities	23
	Environmental Performance of the Works	24
	Environmental Performance of Affiliated Companies	27

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	<b>Progress in Environmental Management</b>	30
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## □ Editorial Policy

This brochure reports on the environmental preservation activities of the Furukawa Electric Group in fiscal 2004. In addition to the articles covered last year, this report has included compliance activities. The environmental impact data for Furukawa Electric alone, and also the data of its group companies are provided, so that the situation of the entire Group can be grasped. In addition, concrete examples of the activities of Furukawa Electric, and the scale of the environmental impact of its non-production bases are provided, to make the activities of Furukawa Electric and its Group easier to read and understand.

In compiling this report, we have made reference to the Environmental Reporting Guidelines (Fiscal Year 2003 version) published by the Ministry of the Environment, as well as the Sustainability Reporting Guidelines 2000 published by Global Reporting Initiative.

## □ Business Bases Covered by this Report

### 1. All the business bases of Furukawa Electric

①Chiba works ②Nikko works ③Hiratsuka works ④Mie works ⑤Osaka works  
⑥Kambara works ⑦Shinagawa works ⑧Yokohama R&D Laboratories

Kambara works was closed in March 2005, but it continued its manufacturing operation until December 2004. In this report, we have included its activities up to that time.

### 2. Affiliated companies

Access Cable Company  
Asahi Electric Works Co., Ltd.  
Furukawa Logistics Corporation and 35 other companies

(Company names are described on page 7)

\*1) In this report, when "Furukawa Electric" is mentioned, it refers to the business bases of the item, 1. above. When "the Furukawa Electric Group" is mentioned, it refers to the business bases of the items 1 and 2 above (excluding pages 27 to 29).

\*2) The business bases covered by this report are different to the previous report, due to the changes in the group companies. Therefore, the environmental impact data for Furukawa-Sky Aluminum Corp. is retroactively extracted from the data of Furukawa Electric, and is included in the data of affiliated companies, as data for Furukawa-Sky Aluminum Corp. For other companies, data is provided both for newly covered business bases for fiscal 2004, and also for the business bases that had been traditionally covered.

## □ Period Covered

From April 1, 2004 to March 31, 2005

Information regarding past events and fiscal 2005 is partially included.

### Enquiries and further information

Safety, Environment & Quality Promotion Department  
The Furukawa Electric Co., Ltd.  
TEL +81-3-3286-3090  
FAX +81-3-3286-3540

## □ Reorganization and alliance of electric power division during this period

The electric power division of The Furukawa Electric Co., Ltd. integrated with VISCAS Corporation and Furukawa Industrial Cable Co., Ltd. on January 1, 2005 to create the new VISCAS Corporation and Furukawa Electric Industrial Cable Co., Ltd. Considering the large environmental impact of these divisions that significantly affects annual data counting, we compiled the data for these divisions to be included in the conventional works to which each division belonged to, carrying out the data counting on a full year basis up to the end of March.

Also Shinagawa works has changed its name to the Head Office VISCAS due to the reorganization, but it is using the name as of April 2004 in this report and is covered by Furukawa Electric solely.

## Message

# “The Furukawa Electric Group” will thoroughly promote environmentally friendly activities and achieve continuous growth.

Although Furukawa Electric faces harsh conditions, we are working on reorganizing our businesses and making proper adjustments to our workforce, with the aim of becoming a creative and outstanding global enterprise. In April 2004, we reformed our management system by introducing a company system that is responsible for the business operations of individual divisions, and we introduced a chief officer system at our Head Office. We have also strived to establish a scheme to continuously produce a profit, by securely strengthening our manufacturing and human resources development, which are to be the foundation of our Group, paying attention to actual places and actual items. Furthermore, by having chief officers as a responsible person, we will thoroughly promote activities throughout the company that not only strengthen our sales force, improve our productivity, promote research and development, and develop our human resources, but also eliminate defects and accidents and give consideration to the environment.

For environmental activities, Furukawa Electric, in cooperation with its associated group companies, has continuously worked to reduce its environmental impact and increase its resource capabilities, once it has clarified the levels and timings that it seeks to achieve, aiming to realize a “recycling-oriented society.” In addition, we have actively carried out environmental risk reducing activities, including managing the chemical substances contained in our products and carrying out ground pollution investigation.

The relationship between corporations and society has diversified, and in order to respond to the demands placed on us as a member of society, we need to carry out activities with due consideration for society, and so we started by setting up a Compliance Committee and established

some Action Guidelines, to ensure employees practice compliance and follow a code of conduct. We also gave consideration to the safety and promotion of health of our employees. Each works has continuously worked on strengthening the trust of the local community, by contributing to it, checking that exhaust gases and wastewater meet the laws and regulations and thoroughly managing waste. For social contribution activities, in particular, we carried out relief support activities in relation to the earthquake that occurred off Sumatra Island on December 26, 2004.

Furukawa Electric returned to profitability in fiscal 2004, after an interval of three years, and we believe that a path for the revival of Furukawa Electric has come into sight. We will work on further improvement with an indomitable determination. We hope that our readers will understand the environmental and social activities of Furukawa Electric and give us your continued support and cooperation.



*H. Ishihara*

**Hiroshi Ishihara**  
President, Chief Executive Officer and Chief Operating Officer

## Company Policy of Furukawa Electric Group

### Basic Management Policy

- Have a high regard for our customers
- Value our employees and bring out the best in them
- Proactively adopt new technologies that harness creativity

### Our Vision

Pursuing technology innovation and aiming for a creative and highly profitable company with a stronger global presence

### Management Policy

- Practice of responsive management
- Orientation toward profit
- Creation of new products and market opportunities
- Growing development of global management
- Continuous promotion of structural reform
- Strengthening of consolidated management

# Furukawa Electric Basic Environmental Policy

## [Basic Policy]

Furukawa Electric recognizes that preservation of the global environment is a critical issue for society, and shall incorporate consideration of environmental preservation issues into every phase of corporate activity, to contribute to advancement of a sustainable, happy and prosperous society.

## [Action Guidelines]

- All activities shall be based on an awareness of its effect on the global environment, and environmental preservation activities shall be pursued by all employees.
- We shall observe environmental laws and regulations and requirements from our customers, and set up voluntary standards to upgrade control levels.
- We shall define environmental targets and objectives, and carry out activities according to this plan, thereby continuously improving environmental preservation activities.
- Environmental concerns shall be taken into consideration in every phase of our work from the R&D and design stages to supply environmentally friendly products.
- In every phase of procurement, manufacturing, distribution and customer service we shall work to reduce consumption of resources and energy, to promote recycling, and to reduce waste materials and the impact on the environment.
- We shall carry out environmental audits, and review our environmental management system and environmental preservation activities for continuous improvement.
- We shall educate all employees to enhance their environmental awareness, and promote disclosure of information and social communication, thereby actively contributing to community activities.

Furukawa Electric and its affiliated companies have continuously promoted environmental preservation activities, aiming to achieve a "recycling-oriented society." Since these activities also relate to corporate activities such as production and sales, we have comprehensively worked on all our activities in conjunction with reducing costs, procuring materials, applying technology in our plants, improving quality and carrying out safety and health management.

Our main businesses cover a wide range of areas including copper products, power and telecommunication cables, electronics and automotive systems and industrial products. We carry out research and development to increase the ratio of new products in each of these areas, and aim to improve profitability and increase growth potential by creating, in particular, "creative new products that capture new markets." Environmentally friendly products called ECOLINK have become one of our development pillars. This year we launched a variety of products on the mar-

ket, including a porous pipe for irrigation that is made from recycled cross-linked polyethylene, a reflow oven that uses lead-free solder, a mechanical sleeve that can be easily removed from concrete and reused, a halogen-free electric wire for lighting equipment, and a copper alloy substituting the use of beryllium copper. We have successfully conducted a 500 meter on-site electric power transmission test of a "high-temperature superconducting power cable" currently under development. This achievement is the highest-level in the world, and when we put it to practical use, we expect that it will contribute to solving the energy problem and preventing global warming.

At manufacturing sites we have continuously carried out activities to reduce the impact on the environment and we have worked on reducing waste disposal costs, which has yielded excellent results. This was brought about by the thorough sorting of waste and reusing it. We will continue to work to reduce waste, the emission of greenhouse gases and the emission of chemical substances.

Here we present an environmental report summarizing the activities we conducted in fiscal 2004. We hope that our stakeholders will have a deeper understanding of the activities of Furukawa Electric and its associated group of companies, with respect to environmental preservation, and we hope that they will pass on to us their frank opinions and suggestions.



A handwritten signature in black ink, appearing to read 'Michitoyo Kurokawa', written in a cursive style.

**Michitoyo Kurokawa**  
Director in charge of environment  
Director, Member of the Board  
and Chief Production Officer

## Environmental Performance

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Furukawa Electric and its group have had a long lasting involvement in the proactive recycling of copper and aluminum, and the recovery and reuse of plastics, while focusing on developing environmentally friendly products. We are working hard to preserve the global environment and conserve its resources.



# Targets and Performance of Environmental Management

Furukawa Electric has set target standards to be reached by fiscal 2005 for each activity in the Medium-Term Plan for Environmental Preservation Activities 2005, and has promoted these activities since fiscal 2003. In addition, Furukawa Electric and its group have set common activity targets for consolidated environmental management to promote these activities. These targets are broken down into targets for each fiscal year, and linked to concrete action items. We plan to formulate the next medium-term targets for fiscal 2009 at the end of fiscal 2005.

## Performance in Fiscal 2004

Furukawa Electric set the annual target of "Priority Environmental Preservation Activity Targets for Fiscal 2004", and these targets were deployed in the objective, targets and programs under the environmental management system for the individual business bases, to promote these activities. Our affiliated companies also set their unique targets with respect to the common activity targets of the consolidated environmental management and promoted their activities.

### ■ Priority Environmental Preservation Activity Performance in Fiscal 2004

Item	Target	Performance	Evaluation
Reduction of industrial waste	40% reduction compared to fiscal 2000	58% reduction	◎
Zero-emission activities	50% reduction compared to fiscal 2000	83% reduction	◎
Reduction of greenhouse gases	Achieving the same emissions as the previous fiscal year (227,000 tons)	222,000 tons or a reduction of 2%	○
Energy-conservation activities	Energy intensity per unit product: 1% reduction compared to the previous fiscal year	9% reduction compared to fiscal 1999 A 3 percentage point increase compared to the previous fiscal year	△
Reduction of chemical effluents	52% reduction over fiscal 2000	46% reduction	△
Promotion of procuring green products and supplies	Promotion of procurement of 23 general commodity items	Grasping the procurement ratio for applicable supplies	○
	Investigating 100% of the products purchased from major vendors	Investigated 79% of the vendors	△
Reinforcement of consolidated environmental management	Policy formulation and invigoration of group activities	Information exchange including meetings and visits Holding of environmental seminars	○
Eco-design activities	Modeling toward introduction of LCA	Collection of basic data	△

◎: Comfortably achieved, ○: Achieved, △: Slightly underachieved, ×: Underachieved

## Targets in Fiscal 2005

Fiscal 2005 is the final year of the Medium-Term Plan for Environmental Preservation Activities 2005 and the common targets of Consolidated Environmental Management, and therefore the items and targets have been made consistent

with those of the medium-term targets. Individual business bases and individual companies will adopt these targets in their respective environmental management activities and plan to promote their own activities.

### Targets of Furukawa Electric

■ Reduction of industrial waste	50% reduction compared to fiscal 2000
■ Zero-emission activities	60% reduction compared to fiscal 2000
■ Reduction of greenhouse gases	Reduction of greenhouse gas emissions: Achieving the performance of the previous fiscal year
■ Energy-conservation activities	Energy intensity per unit product: 1% reduction compared to the previous fiscal year
■ Reduction of chemical effluents	54% reduction compared to fiscal 2000 (targeted substances: Toluene, Xylene, Ethyl benzene)
■ Promotion of procuring green products	Procurement ratio for 23 general supplies including office supplies / 100%
■ Eco-design activities	Modeling toward introduction of LCA
■ Promotion of consolidated environmental management	Policy formulation and invigoration of group activities

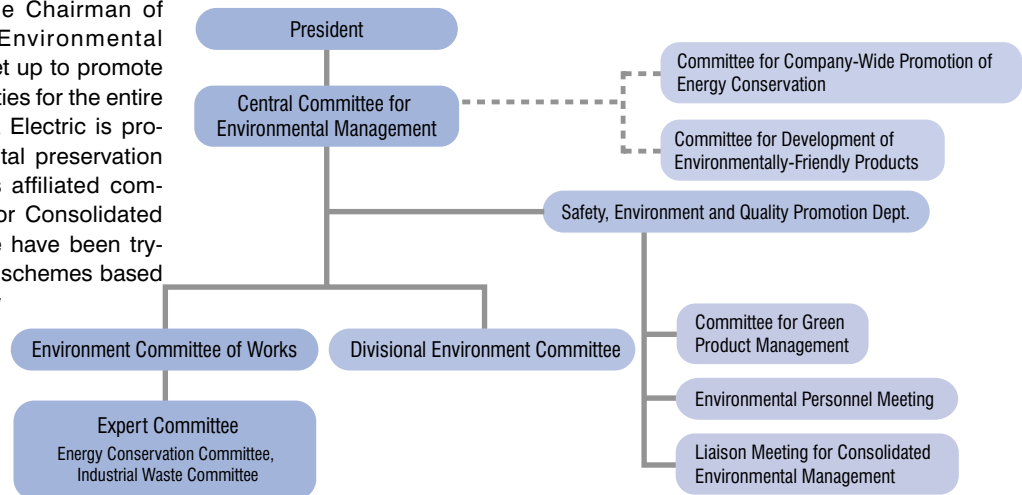
### Targets of Consolidated Environmental Management

■ ISO14001 certification acquisition	Certification acquisition by all the companies
■ Reduction of industrial waste	Reduction of industrial waste 30% reduction compared to fiscal 2000
■ Zero-emission activities	50% reduction compared to fiscal 2000 (direct landfill quantity)
■ Reduction of greenhouse gases	CO <sub>2</sub> emission 5% reduction compared to fiscal 2000
	Use of HFC and PFC Complete elimination
	Emission of SF <sub>6</sub> into the atmosphere 50% reduction compared to fiscal 2000
■ Reduction of chemical effluents	50% reduction compared to fiscal 2000 (targeted substances: hazardous organic chlorine compounds)

# Environmental Management Activities

At Furukawa Electric, the Director in charge of the environment acts as the Chairman of the Central Committee for Environmental Management, which has been set up to promote environmental preservation activities for the entire company. In addition, Furukawa Electric is promoting the Group's environmental preservation activities in conjunction with its affiliated companies at the Liaison Meeting for Consolidated Environmental Management. We have been trying to acquire certification, since schemes based on ISO14001 would be very effective for carrying out environmental preservation activities at the individual business bases of Furukawa Electric and its affiliated companies.

## Organization Chart for Company-Wide Environmental Management



## ISO14001 Certification at Furukawa Electric

Works	Date of Acquisition	Certifying Organization	Certification Number
Chiba	June 18, 1998	DNV	1208-1998-AE-KOB-RvA
Mie	November 24, 1998	JACO	EC98J1097
Hiratsuka	September 1, 2000	DNV	1699-2000-AE-KOB-RvA
Osaka	December 19, 2000	DNV	1114-2000-AE-KOB-RvA
Nikko	March 14, 2002	DNV	1851-2002-AE-KOB-RvA/JAB
Yokohama	June 14, 2002	DNV	1849-2002-AE-KOB-RvA

Furukawa Electric has acquired ISO14001 certification at all its works.

In the affiliated companies, NTEC and Miharu Communications newly acquired the certification in fiscal 2004, meaning that 95% of the affiliated companies have acquired the certification. The remaining two companies of Sunsunny Industry and Furukawa Precision Engineering plan to acquire the certification during fiscal 2005.

## List of Companies Participating in the Liaison Meeting for Consolidated Environmental Management

Company Name	ISO14001	Environmental Accounting
Access Cable Company	○	
Asahi Electric Works Co., Ltd.	○	
Inoue Manufacturing Co., Ltd.	○	
NTEC Ltd.	○	
F-CO Co., Ltd.	○	○
FCM Co., Ltd.	○	
Okano Electric Wire Co., Ltd.	○	
Okumura Metals Co., Ltd.	○	
The Kyushu Furukawa Electric Co., Ltd.	○	
Kyowa Electric Wire Co., Ltd.	○	
Sunsunny Industry Co., Ltd.	*	
Shodensha Co., Ltd.	○	
Seiwa Giken Inc.	○	
Totoku Electric Co., Ltd.	○	○
T. H. Furukawa Electric Co., Ltd.	○	
Nikkei Kakoh Co., Ltd.	○	
Nippon Foil Mfg. Co., Ltd.	○	○
Higashi Nihon Tanzou Co., Ltd.	○	
Furukawa Electric Industrial Cable Co., Ltd.	○	

Company Name	ISO14001	Environmental Accounting
Furukawa Infonet Products Co., Ltd.	○	
FITEC Corporation	○	
The Furukawa Electric Engineering Service Co., Ltd.	○	
Furukawa Automotive Parts Inc.	○	
Furukawa Circuit Foil Co., Ltd.	○	
Furukawa Sangyo Kaisha, Ltd.	○	○
Broad Wireless Corporation	○	○
Furukawa Industrial Plastics Co., Ltd.	○	○
Furukawa Precision Engineering Co., Ltd.	*	
Furukawa Engineering & Construction Inc.	○	○
The Furukawa Battery Co., Ltd.	○	○
Furukawa Logistics Corporation	○	
Furukawa Techno Material Co., Ltd.	○	○
Furukawa Life Service Inc.	○	
Miharu Communications Inc.	○	
Yamada Keikinzoku Co., Ltd.	○	
Riken Electric Wire Co., Ltd.	○	○
Furukawa-Sky Aluminum Corporation	○	○
Zaikoo Co., Ltd.	○	

ISO14001.....○: Already acquired certification, \*:Planning to acquire certification during fiscal 2005  
Environmental accounting.....○: Implements environmental accounting described in this paper



# Impact on the Environment by Furukawa Electric

Furukawa Electric provides products by producing a variety of parts and raw materials, and by using energy, including water and electric power, and chemical substances. We are working on reducing the adverse impact on the environment produced by these activities.

## Impact on the environment by the six production base works

### INPUT

<b>Raw materials</b>		
Copper	.....>	188,000 t
<b>Energy (*1)</b>		
	.....>	140,000 kℓ
<b>Water</b>		
	.....>	16.7 million t
<b>Chemical substances (*2)</b>		
	.....>	5,976 t

(\*1) Amount of electric power, fuel oil and fuel gas used  
 (\*2) PRTR targeted substances  
 (\*3) Outsourced industrial waste disposal, excluding recycled materials

### OUTPUT

<b>Emissions into the atmosphere</b>		
CO <sub>2</sub>	.....>	222,000 t—CO <sub>2</sub>
NO <sub>x</sub>	.....>	159 t
SO <sub>x</sub>	.....>	12 t
Soot	.....>	10 t
<b>Wastewater</b>		
	.....>	16.4 million t
<b>Waste</b>		
Industrial waste (*3)	.....>	3,816 t
Recycled materials	.....>	16,894 t
<b>Chemical substances (*2)</b>		
Emitted volume	.....>	202 t
Transferred volume	.....>	328 t

## Impact on the environment by non-production bases

Furukawa Electric has grasped the impact on the environment caused by the non-production bases of its Head Office and three Branch Offices.

<b>Amount of electric power</b>		
	.....>	1,150,602 kWh
<b>Amount of water used</b>		
	.....>	382 m <sup>3</sup>
<b>Amount of paper used</b>		
Photocopier paper	.....>	20,947 kg
Newspaper	.....>	3,740 kg

The non-production bases of our Head Office and Branch Offices are promoting power savings and resources savings.

As power saving measures, lights in rooms such as unused conference rooms are turned off and air conditioning units are set at an appropriate temperature.

As resources saving measures, we promote the sorting of waste and the reuse of photocopier paper and files.

## Zero-Emission Activities

The Furukawa Electric Group began activities to reduce outsourced industrial waste disposal in 1993, and has promoted zero-emission activities of waste since fiscal 2001. At the Furukawa Electric Group zero-emission activities are defined as “activities to reduce the industrial waste commissioned to outsourced disposal that is transported from plants directly to landfill spots for final disposal.”

### Performance in Fiscal 2004

#### Furukawa Electric

We reduced outsourced industrial waste disposal by 58% compared to fiscal 2000, attaining the fiscal target of a 40% reduction. In addition, we reduced the volume of direct land disposal by 83% compared to fiscal 2000, substantially exceeding the fiscal target of a 50% reduction.

#### Affiliated companies

Our affiliated companies reduced their outsourced industrial waste disposal by 37% compared to fiscal 2000, and the volume of direct landfill disposal by 11% compared to fiscal 2000. They are further promoting reduction activities toward achieving the target for fiscal 2005.

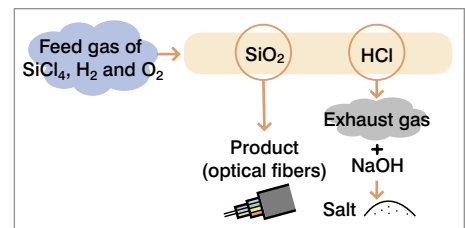
#### Companies that have attained zero emissions

One more company has attained zero emission in the Group, bringing the total to 10.

## Recycling of Waste Salt Byproduct Produced in the Optical Fiber Manufacturing Process

Chlorine contained in the feed gas is emitted as exhaust gas in the manufacturing process of optical fibers. When this chlorine is removed by reacting it with caustic soda water, and the resultant wastewater is treated, a salt is formed as a byproduct. Conventionally, this salt was disposed of in landfill spots, but we have

managed to recycle it, by selling it to companies that use industrial-use salt as a raw material. Prior to this, we provided samples to these companies, confirmed its non-toxicity by testing it on animals and checked that the aqueous solution conforms to the effluent standard.



## Recycling of Plastic Waste

Until now, various kinds of plastics were mixed in with the miscellaneous goods that were discarded, and they were not recycled.

We made rules for the sorting of these goods and we held study meetings and patrolled garbage dumps to promote thorough sorting activities. For example, we made it a rule to put items ranging from safety shoes and hard hats to safety goggles in transparent bags, so that the constituent material of the contents can be easily identified. As a result, it was possible to protect this practice of sorting, which has enabled the recycling of waste.

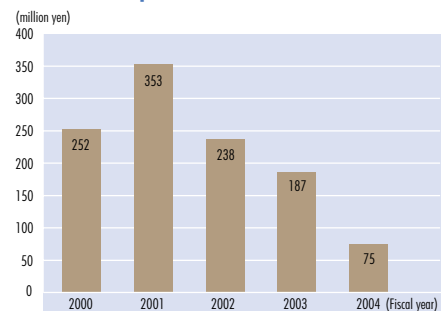


Patrol to monitor sorting

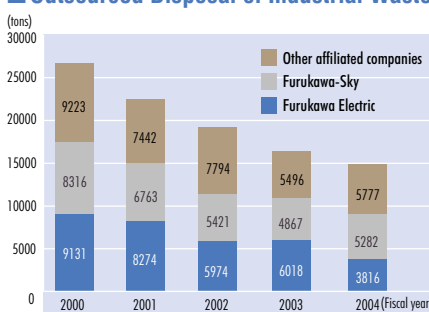
## Reduction of Waste Disposal Costs

Considering that environmental preservation activities directly contribute to management, as a part of the Furukawa Survival Plan, we adopted reduction of waste disposal costs as our activity target. As a result of the conversion of waste, which conventionally incurred disposal costs for landfills, etc., into valuables for recycling, we reduced disposal costs by about 100 million yen, substantially exceeding our target of 50 million yen.

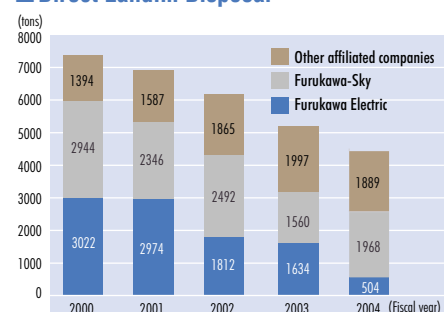
### Waste Disposal Costs



### Outsourced Disposal of Industrial Waste



### Direct Landfill Disposal



# Prevention of Global Warming

The Kyoto Protocol took effect on February 16, 2005, and the reduction of targeted gases has become mandatory for the prevention of global warming. The Furukawa Electric Group has worked on energy conservation activities since before the ratification by the Japanese Government, aiming at the prevention of global warming.

## Performance in Fiscal 2004

### Furukawa Electric

Emissions of greenhouse gases (on a CO<sub>2</sub> basis) were 222,000 tons, attaining the target of fiscal 2004 which was the same as the result of the previous fiscal year (227,000 tons). Emissions in fiscal 2004 were reduced by 21% compared to fiscal 2000.

### Affiliated companies

Emissions of greenhouse gases increased by 1% compared to fiscal 2000. Our affiliated companies are further promoting activities to reduce these emissions, aiming for the fiscal 2005 target of a 5% reduction.

### Energy intensity per unit product (EIPUP) at Furukawa Electric

The energy consumption at the five works\* designated as "Class 1 Energy Management Factories" was 127,000 kℓ, a reduction of 3,115 kℓ. EIPUP was reduced by 9% compared to fiscal 1999, attaining the long-term target of a 5% reduction, but it represented an increase of 3 percentage points from the previous fiscal year.

\* The five works are Chiba, Nikko, Hiratsuka, Mie and Osaka

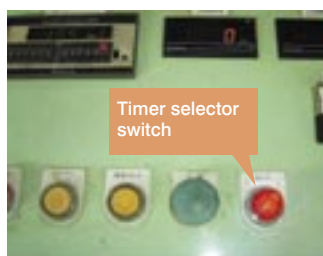
## Energy Conservation Activities

Major factors for energy conservation included: controlling of the number of compressors and their integration, controlling cooling water pumps by inverters, using air conditioners sparingly, using energy saving lighting, automatically recovering the waste heat of scrubbers, suspending or sealing the use of our facilities and improving the yield.

Access Cable Company has improved its facilities and lighting.

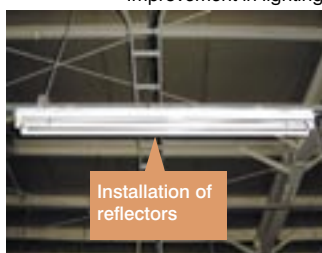
### ① Improvement in facilities

During the operation of composite stranding machines, operators do two



Improvement in facilities

### Improvement in lighting



or more jobs at the same time, and fan motors were kept running while the facilities were shut down to change tools. Timers were installed on these composite stranding machines so that the fan motors stopped during the shutdown of these

facilities.

### ② Improvement in lighting

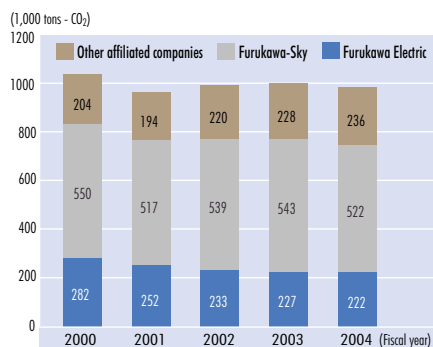
As for light sources, two low power lamp-type lighting fixtures were replaced by a single lamp type lighting fixture (32W x one lamp) and reflectors were installed.

## Provision of LCA Data to Customers

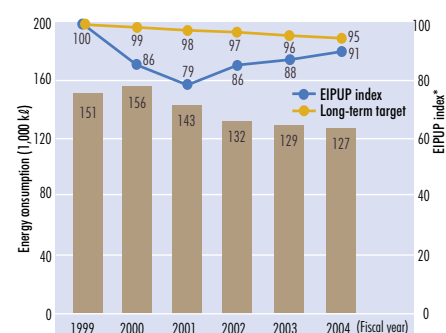
The automotive manufacturers, which are customers of Furukawa Electric, grasp the impact on the environment of things like CO<sub>2</sub> emitted from vehicles, and utilize LCA (Life Cycle Assessment). At the request of these automotive manufacturers, we calculate and provide the data on the impact on the environment that occurs during our manufacture of the parts which are supplied to them. The automotive manufacturers make an environmental impact assessment of the entire life cycle

of vehicles from this data, including our data, on the impact on the environment at each stage of the manufacturing process, in order to develop vehicles that have a reduced impact on the environment. In fiscal 2004, we calculated and provided data on seven items, including wire harnesses and aluminum bus bars. In future, we will continue to contribute to the prevention of global warming and the preservation of the global environment, in cooperation with our customers.

### Emission of Greenhouse Gases



### Energy Consumption and EIPUP (at five works)



\* EIPUP index: Representation of EIPUP for each fiscal year with the EIPUP in fiscal 1999 set as 100

## Chemical Substance Management

The Furukawa Electric Group has been working on the reduction of tetrachloroethylene, trichloroethylene, and dichloromethane among organic chlorine compounds. In addition, because Furukawa Electric has achieved excellent results in reducing the use and emission of ozone-layer depleting substances and organic chlorine compounds, the Company has worked on the reduction of toluene, xylene, and ethylbenzene, which are volatile organic compounds since fiscal 2003.

### Organic Chlorine Compounds

30 companies including Furukawa Electric have eliminated the use of tetrachloroethylene, while 26 companies including Furukawa Electric have eliminated the use of trichloroethylene. Dichloromethane was used at one of Furukawa Electric's works during the manufacturing process of a specific product. The affiliated companies reduced the emission by 54% compared to fiscal 2000, and 28 companies did not use this compound. The companies using the targeted substances are promoting reduction activities aiming at their complete elimination in fiscal 2008, while

reviewing the manufacturing process and materials. For example, Asahi Electric Works used a surface treatment agent containing trichloroethylene to prevent oxidation on connection sleeves for distribution lines. In fiscal 2004, however, they stopped using this agent and replaced it with a substitute. Furukawa Electric Industrial Cable conventionally used dichloromethane for their cleansing processes, but they stopped using it and replaced it with a substitute.

### Specific Chemical Substances

Furukawa Electric has promoted activities to reduce the three targeted substances (specific chemical substances) since fiscal 2003. Toluene accounts for about 96% of these three substances, and is used as a product cleanser and in floor paints. As reduction measures, we have implemented a review of the content of cleaning agents, improved our washing tanks, and switched to

using water-soluble paints. In addition, improvements in quality have reduced the number of times that repeated cleansing has been needed. Emission of the three targeted substances was reduced by 46% compared to fiscal 2000, slightly short of the target of a 52% reduction.

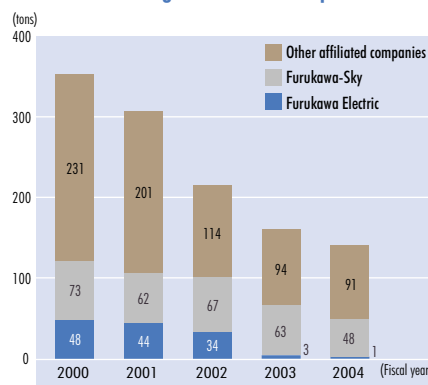
### Release and Transfer Volume of PRTR Substances

(Unit: tons)

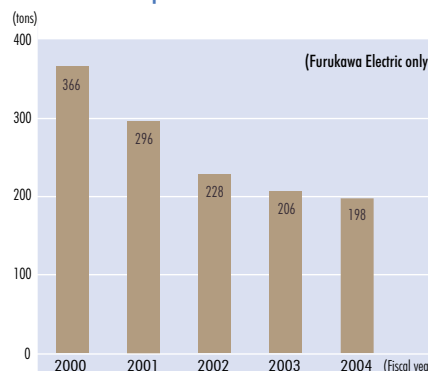
Substance No.	Name of substance	Handling volume	Emitted volume	Transferred volume	Neutralized volume
25	Antimony and its compounds	111.7	0.1	4.2	0.0
40	Ethylbenzene	8.7	0.0	0.0	8.7
63	Xylene	53.2	16.4	16.5	20.2
64	Silver and its water-soluble compounds	1.3	0.0	0.0	0.0
67	Cresol	339.5	0.1	0.1	338.8
108	Inorganic cyanide compounds	3.3	0.0	0.0	3.3
145	Dichloromethane	2.9	1.1	1.7	0.0
172	N, N-dimethylformamide	85.8	0.7	0.2	84.8
197	Decabromo-diphenylether	170.9	0.0	12.2	0.0
207	Copper salts (water-soluble)	14.3	0.0	0.0	0.0
227	Toluene	550.7	183.1	290.0	73.8
230	Lead and its compounds	4,381.7	0.0	0.2	0.2
231	Nickel	2.1	0.0	0.0	0.0
232	Nickel compounds	6.5	0.0	0.0	0.0
253	Hydrazine	5.9	0.0	0.0	5.9
266	Phenol	217.7	0.0	0.2	217.1
272	Bis (2-ethylhexyl) phthalate	13.5	0.0	1.0	0.0
312	Phthalic anhydride	2.1	0.0	0.1	0.0

\* Targeting substances of handling volume of 1 ton or more at works (0.5 tons or more for specific substances)

### Emission of Organochlorine Compounds



### Emission of Specific Chemical Substances



# Green Activities

Furukawa Electric has promoted green procurement. While we were requested by our customers to cooperate on green procurement and we responded to their demands on product investigation and audit, the customers' demands on thorough source control from the viewpoint of the entire green supply chain increased recently, and we responded to these demands.

Performance in Fiscal 2004			
Green procurement ratio for general commodities		Investigation ratio of products purchased from major vendors	
No. of commodities	50.0%	Investigation ratio for vendors	79.0%
Amount	44.2%	Investigation ratio for purchased products	63.0%

## Green Product Management Activities

The worldwide major trend of green activities is changing, from controlling at business bases the emission of substances that impact the environment, to controlling generally the environmental impact that the products may generate. Customers are requesting that we guarantee we will not use products designated as harmful to the environment, or use other products that contain such harmful substances. Furukawa Electric conventionally established the Green Procurement Executive Committee under the Central Committee for Environmental Management to respond to our customers, and in fiscal 2004 we worked on the establishing a green product management system under the slogan of "Products bearing the Furukawa Electric brand will be made all green."

The Green Procurement Executive Commit-

tee, which has been operating for two years, dissolved at the 19th meeting, and instead a "Green Product Management Committee" was formed. At the same time, there was a review of the members of the committee, and representatives from the plants and the facility sections were added, in addition to those from the marketing and engineering sections. This committee aims to promote the introduction of a product certification system and practice global law observance management.

### Targets of Green Product Management Activities

To establish a green product management system by December 2006 with the aim of making products of the Furukawa Electric brand all green  
 ——Achieving products free of RoHS and RoHS-free plants——

## Activities at Automotive Products Division

The Automotive Products Division of the Electronics & Automotive Systems Company worked on establishing an environmental impact substance management system in response to requests from automotive manufacturers.

In addition to the EMS System which includes reducing industrial waste, undertaking zero-emission and energy conservation activities, which plants have worked under in the past, we have made it our policy to establish a scheme in which prohibited environmental impact substances cannot be mixed with the products at each stage of our research, development, design, purchase, manufacture and distribution. The Automotive Products Divisional Environment Committee was set up in the Division and an environmental session was organized in each plant. This respective environmental session mainly clarified the supply chain of our products, the instruction not to use environmental impact substances with drawings

and specifications to vendors, and developed our receiving system to ensure the management of purchased products, the formulation of a scheme to prevent environmental impact substances from being used in our processes, and so forth.

We prepared a green procurement guideline for Automotive Products Division and held a briefing for our vendors. We also requested their cooperation in investigating purchased parts and materials using an environmental impact substance investigation sheet, disclosing constituent substance, presenting certificates confirming the non-use of specific environmental impact substances, etc., and our vendors fulfilled this request.

Analytical instruments were introduced in each plant, to verify that no prohibited substances were contained in our products, and we strengthened our management to ensure the carrying out investigation of purchased products and products to be shipped.

## Green Procurement

For general commodities such as office supplies, we have designated products recommended by the Green Purchasing Network and products attached with eco-labels as products that meet our green procurement requirements. These products are displayed in green on the selection screen of our purchasing system so that purchasers can positively select products that conform to this network's recommendations.

For manufacturing parts and materials relating to our products and manufacturing processes (purchased products), we have proceeded with an investigation in the environmental management situation of our vendors and the content of hazardous substances in our products. The investigation results are organized using the green procurement support system to promote information sharing.



Screen of green procurement support system

## Green Logistics

The Furukawa Electric Group has endeavored to reduce the environmental impact in the logistics area by reducing packaging materials, reusing and recycling cable drums and sharing transportation and delivery.

Measures to prevent global warming include:

- (1) the transportation and delivery of aluminum products from Furukawa-Sky's Fukui Works was changed from truck transportation to container transportation which uses a railroad; and
- (2) The NOx emission was previously known, but from fiscal 2004 the CO<sub>2</sub> emission began to be grasped.

We have promoted the reduction of CO<sub>2</sub> and NOx emitted from vehicles, and reduced the number of delivery vehicles, by increasing the practice of mixed loading and the use of large-sized vehicles, to contribute to the prevention of global warming.

(For details, please refer to the introduction of Furukawa Logistics, on page 29.)

## Recycling Activities

The Furukawa Electric Group is positively working on material recycling and is promoting waste recycling by establishing a collection network and recycling system. We are also promoting the development of technologies to optimize the recycling of various materials, including copper, aluminum and plastics, with the aim of constructing a recycling-oriented society by reducing industrial waste and recycling other waste.

### Recycling Technology

Furukawa Electric uses nine collection networks nationwide to collect wires and cables that have been removed, and almost 100% of the copper and aluminum, the raw materials for conductors, that are used in these cables is recycled. Insulation materials are also recycled for use in recycled plastics or as fuel. Cross-linked polyethylene, which was conventionally incinerated or disposed of in landfills, is recycled to make porous pipes for irrigation purposes, thus utilizing the property of this material.

At Zaikoo the automated processes of cable stripping, cutting, shredding and grinding are performed by using dismantling facilities to materially separate collected wires and cables (including optical cables). These materials are then sorted into polyethylene, polyvinyl chloride, iron, copper, etc. by the material sorter. Polyethylene and polyvinyl chloride are molded into recycled pellets, which are reused in various resin products of the Group. Metals such as copper, aluminum, iron and lead scrap are 100% recycled. Thus, Zaikoo has developed a recycling technology, aiming at a recycling society, and continues their challenge to totally eliminate waste by completely recycling disposed electric wires, from their collection to their dismantling to recycling. (Web site of Zaikoo <http://www.zaikoo.com>)

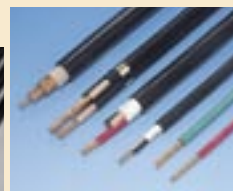


Automated dismantling facilities

#### Recycled products



Recycled electric wires  
(Communication cables)



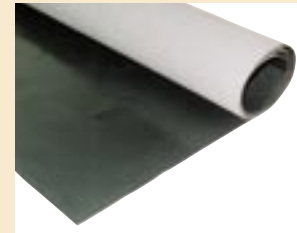
Recycled electric wires  
(Electric power cables)



Cable duct for underground laying  
(KOHTA KUN)



Synthetic resin trough (Green Trough)



Weed barrier sheet

Details of our recycling technology are accessible at the following Web site of Furukawa Electric.

<http://www.furukawa.co.jp/enviro/tech/index.htm>

Furukawa Electric has established a Recycle Center to perform various kinds of plastic recycling, such as reusing the discarded materials of various used plastic products and to recycle materials lost in the production process. Among others, we have a grinding line which shreds and grinds large-sized discarded plastic material, a volume reduction line that uses heat to shrink large-volume discarded foamed materials, a pellet extruding line that produces pellets from reduced-volume discarded materials by using an extruder.

The pellet extruding line is capable of cutting cross-linking of cross-linked polyethylene by using unique equipment and a unique process, and recycles pellets which have physical properties similar to those of virgin pellets. These recycled pellets are not only recycled into other

products, but they are also widely used as materials for injection molding and extrusion molding.



Pellet extruding line

# Eco-Design Activities

## Development of Environmentally Friendly Products

Eco-design has manifold aspects including designing products that consume small amount of energy in terms of LCA, material and structure selections that enable 3R, and designing products that do not contain toxic or hazardous substances. Therefore, Ecology & Energy Laboratory is promoting the development of environmentally friendly products from the following viewpoints.

- The laboratory performs research and development in products with a long life span, such as wires and cables and materials and structures that do not contain toxic or hazardous substances and can be recycled and reused.
- Conductors for electric power cables and communication cables are recycled, thanks to the establishment of a collection method for copper wires and aluminum wires. The laboratory performs product development of resins, which are collected simultaneously with conductors, putting priority on recycling them into electric wires and cables, and if this is not feasible, it aims to deploy resins for other plastic products.
- The laboratory applies processing technology honed over a long time, to new materials such as material derived from plants and vegetables, to develop distinctive products.

### Voices of the development staff



**Shigeru Tokuda**  
Eco-Products Department,  
Ecology & Energy Laboratory,  
R&D Division

Environmentally friendly products are not adopted without the application of laws and regulations. Even if we ask whether this situation is really acceptable, the reason for not adopting such products lies in high material costs, and half of our work is devoted to cost reduction activities.

When I am involved in developing recycling technology for plastic waste, I find that just by using a simple process, waste can be turned into an excellent product. One example of such a product is Green Trough. Considering that plastic waste is a resource, I wonder if it is all right to take plastic waste to China so quickly. Has Japan become a resource exporting country? This may be something that will not bring any joy.

### Development of Non-halogen, PVC-substitute Equipment Wire for Pressure Welding (ECO-BEAMEX 105R)

Pressure welding wires are simultaneously pressure welded to connectors in a large number of wires.

Normal non-halogen wires are easily crushed and have small repulsion elasticity, and consequently they deform at the strain relief point, or sheathes peel off. In addition, it was not possible to use a normal non-halogen wire, because the sheath was cracked at the pressure welding blade.

We have developed pressure welding non-halogen wires that deform very little even at the strain relief point and whose

sheath is unlikely to crack under the pressure applied by a welding blade, by combining special base resin composition technology, fire retardant surface treatments and cross-linking technology.

The developed wires are sold as ECO-BEAMEX 105R and have been well received among our customers for use in office machinery.



ECO-BEAMEX 105R pressure welded to connector (has the same pressure welding workability as PVC wire)

### Green Trough

This product is a recycled product made from plastic waste such as wire sheath waste, and replaces a conventional concrete trough. While utilizing the characteristics of a plastic that is lightweight and superior in durability, we have combined plastic with an inorganic filler to achieve the necessary rigidity and strength. Generally, the properties of waste plastic materials are inferior to those of virgin materials, and there are large variations in their performance. Therefore, we have optimized the type and quantity of the inorganic filler and used various additives to ensure a stable performance.

In terms of the shape, it has a connected structure that allows it to absorb the expansion and contraction caused by temperature changes, and at the same time a lid is used to secure it, so that it can be used safely under various settings and in strong winds.

There is a high demand for a concrete-colored one, and the commercial production of this is within sight.



Green trough

## Examples of Environmentally Friendly Products

Furukawa Electric designates products that are safe and have a low environmental impact at each stage of their manufacture, use, distribution and disposal as "Environmentally Friendly Products", and these products have this environmental logo.



Porous pipe for irrigation, recycled from cross-linked polyethylene



Copper alloy substituting beryllium copper



Reflow oven for use with lead-free solder



Mechanical sleeve that can be easily removed from concrete and reused



Halogen-free electric wire for lighting equipment

### Ratio of Environmentally Friendly Products

67%

The ratio of environmentally friendly product sales to new product sales is called the ratio of environmentally friendly products.

Details of environmentally friendly products are accessible at the following Web site of Furukawa Electric.

<http://www.furukawa.co.jp/enviro/pro/index.htm>

# Environmental Risk Management

## Countermeasures Regarding Pollution of Soil and Groundwater

We have been conducting soil and groundwater pollution investigations at facilities that have a history of using toxic substances. If the soil and groundwater is found to be polluted during these investigations, we promptly take action to secure the health and safety of the local community.

We also report to the government body about these environmental conditions and measures to be adopted to clean the environment, and disclose this information to the local residents, related institutions and media according to its content.

In fiscal 2003, we formulated "Soil Environmental Risk Management Guidelines", and in fiscal 2004 we deployed the above guidelines across the Furukawa Electric Group, which is carrying out activities according to these guidelines.

Especially, investigations into the history of use of specific toxic substances were conducted at each facility of Furukawa Electric and its affiliated companies. This work required a considerable amount of time and labor. It has been found, however, that toxic substances are or were used at various divisions, and that this investigation is effective in the risk assessment of soil and groundwater pollution. We will take measures according to the

assessed risk.

The standard that "Underground construction of storage facilities and piping for hazardous substances shall be prohibited when they are newly installed" was established by the division which

designs and installs manufacturing facilities of Furukawa Electric in December 2004. In the future, we will standardize and implement this design policy in the facility design sections of the entire Furukawa Electric Group.

### Outline of "Soil Environment Risk Management Guidelines\*" (\*formulated in 2003)

- 1) We shall restrict the handling of specific toxic substances specified in the Soil Contamination Countermeasures Law.  
In principle, the construction of new storage facilities and piping shall be positioned above ground when they are newly installed. Underground construction shall be prohibited.
- 2) We shall thoroughly manage the use, storage and disposal of hazardous substances and seek to switch to substitute substances.
  - ① For specific hazardous substances which are currently being used, areas where there is a possible risk of leakage of these hazardous substances into the soil and groundwater shall be checked and recorded.
  - ② We shall review processes where hazardous substances are used and seek to reduce the usage volume of such substances. We shall switch to substitute substances.
- 3) We shall implement an investigation into the usage record of specific hazardous substances at all plants and facilities.
  - ① We shall investigate the record of usage of specific hazardous substances, tracking back to around 30 years ago, and shall continue to monitor the usage of hazardous substances.
  - ② The record of usage of specific hazardous substances shall be investigated, according to the written materials and we shall record the periods and volume of purchases, use, storage, and disposal. The locations where each of these processes is carried out shall be recorded as a diagram, or in other ways, and these records shall be stored.

## Situation and Countermeasures Regarding Pollution of Soil and Groundwater

### ① Situation and Countermeasures at Furukawa Electric

The countermeasures taken in fiscal 2004 are as follows.

#### ① Nikko Works

**Announcement** April, September and November 2004

**Contaminant** Selenium, arsenic, lead, cadmium

**Location** Nikko City, Tochigi Prefecture Company-owned areas in Arasawa Uodome, Tanze and Kiyotaki 4-chome districts

**Cleansing method** Cleansing and recycling into cement materials, after the drilling and removal of contaminated soil

#### ② NF Park Building (site where former Central Research Laboratory was located)

**Announcement** July 2004

**Contaminant** Lead, arsenic, mercury, trichloroethylene

**Location** 2-9-15 Futaba, Shinagawa-ku, Tokyo

**Situation** Soil pollution on the premises

**Cleansing method** Drilling and removal of contaminated soil, replacing with clean soil

\* With regard to the Nikko District, cleansing work for two locations was completed in fiscal 2003. From fiscal 2005 onward, pollution investigations and cleansing work are scheduled to be implemented at six locations in the company-owned peripheral areas and scheduled to be completed by 2006.

### ② Situation and Countermeasures of Affiliated Companies

Furukawa Electric advises its affiliated companies to respond appropriately to local residents, government bodies and other parties involved.

Affiliated companies of Furukawa Electric that were found to have water and soil pollution in fiscal 2004 and their contamination situations are as follows.

#### ● Tochigi Metal Co., Ltd.

**Announcement** May 2004

**Contaminant** Hexavalent chromium, lead, tetrachloroethylene

**Location** 1750, Kiyotaki Arasawa-cho, Nikko-shi, Tochigi

**Situation** Soil pollution on the premises of the company

**Cleansing method** Drilling and removal of contaminated soil, replacing with clean soil, vapor extraction, and cleaning of original site with a chemical treatment



Site of countermeasures taken for contaminated soil at Tochigi Metal



The following companies have continued to undertake countermeasures since 2003.

① **Totoku Electric**

**Contaminant** PCB, dioxin  
**Location** Former Nagato Works (Nagato-cho, Chiisagata-gun, Nagano)

② **Kyowa Electric Wire**

**Contaminant** Lead, cyanogens, boron, fluorine, dichloromethane  
**Location** Former Osaka Works (Neyagawa-shi, Osaka)

③ **Furukawa Color Aluminum**

**Contaminant** Hexavalent chromium fluoride  
**Location** Main Works (Utsunomiya-shi, Tochigi)

④ **Furukawa-Sky**

**Contaminant** Tetrachloroethylene  
**Location** Oyama Works (Oyama-shi, Tochigi)

## PCB Management

Concerning PCB, which had been used as insulation oil for electrical equipment, transformers, electrical capacitors and stabilizers for fluorescent lights, the volume is controlled and properly managed at each of the works of Furukawa Electric. These stored PCBs will be processed by Japan Environmental Safety Corporation\*, etc. one by one.

\* Japan Environmental Safety Corporation is a "special company" established based on Japan Environmental Safety Corporation Law, wholly owned by the government, and mainly succeeding the PCB waste treatment programs of the former Japan Environment Corporation.



PCB storage status

### Quantity of PCB stored

(unit: item)

No.	Name of works	Removed and stored	In use	Total
1	Chiba Works (Processed)	86	0	86
	Chiba Works (Unprocessed)	36	0	36
2	Nikko Works	182	140	322
3	Hiratsuka Works	40	3	43
4	Mie Works	53	73	126
5	Osaka Works	55	11	66
6	Kambara Works	0	3	3
7	Shinagawa Works	(Stabilizer only)	0	(Stabilizer only)
8	Yokohama R&D Laboratories	9	0	9
Total		461	230	691

## Compliance with Laws and Regulations

We are regularly confirming the laws and regulations to be observed, and making efforts for compliance by patrolling our sites to check the implementation status.

We keep track of revisions of laws and regulations, by closely following the latest information in government gazettes.

### Conduct of Investigation Regarding Handling of Wastewater Data

In response to the problem of water quality data management at a certain company in Chiba Prefecture, Furukawa Electric rechecked the data of all of its works. As a result, two works were found to have made transcription errors, although they met the standards. These errors were corrected.

### Oil Leakage inside Chiba Works

An oil leakage accident from an oil pipeline flange, caused by the swelling and deterioration of the relevant packing, occurred in August last year. Although no oil leaked outside the works and there was no fire, the leaked oil permeated the surrounding soil and contaminated a part of it. Upon reporting this accident to the

### Content of Investigation

#### 1) Management System concerning Pollution Prevention

- Are there standards?
- Is there a Management System Chart?

#### 2) Analysis of Wastewater

- Is there a transparent and objective scheme for sampling and analysis?
- Is the analysis data known to the staff concerned? To what extent is it known?
- Is the handling of analysis data standardized?
- Is there any scheme that prevents description errors in automated data handling or data checks?
- Is there a scheme that checks the reports and the contents of the description concerning notification to municipalities?

#### 3) Confirmation of Document Content Submitted to Municipalities Concerning Wastewater

- Was there any error in the submitted contents concerning analysis data?
- Was there any error in the transcription or compilation of analysis data?

#### 4) Compliance Awareness of All Employees

- Is there education in law observance and ethics?
- Is there education and training in response to abnormal conditions?

fire, prefecture and city authorities, we completed the restoration of the area by taking measures such as replacing the contaminated soil, which included measures to prevent a recurrence.



Chiba Works / Work of replacing soil

# Environmental Accounting

We compiled “environmental conservation cost”, “economic benefit associated with environmental conservation activities” and “environmental conservation benefit” to quantitatively grasp the results of environmental costs and benefits. This data is collected in conformity with the environmental accounting guidelines published by the Ministry of the Environment. For affiliated companies, the data is collected for 11 companies, an addition of three companies to the eight companies publicized for fiscal 2004. The companies covered are described on page 7.

## Furukawa Electric

Environmental conservation costs were: 5.3 billion yen and capital expenditure of 400 million yen. Economic benefits were 260 million yen. Expenses increased by 360 million yen from fiscal 2003. This is due to an increase of 650 million yen in soil pollution treatment costs, despite a decrease of 300 million yen in resource circulation costs including waste disposal costs. Capital expenditure increased by 30 million yen.

## Affiliated Companies

The companies included in the compilation this time are Furukawa Industrial Plastics, Furukawa Techno Material and Furukawa-Sky.

Environmental conservation costs were: 2.5 billion yen and capital expenditure of 800 million yen. Economic benefits increased by 300 million yen, due to the soaring prices of crude oil despite a decrease in the energy consumed.

(Unit: million yen)

Category	Key activity and the outcome	Furukawa Electric		Affiliated Companies
		Amount	Change over the previous year	Amount
(1) Business area cost	Pollution prevention such as air pollution, energy conservation, waste disposal, etc.	1,606	-277	1,559
(2) Upstream/downstream cost	Retrieval of containers, drums, etc.	408	49	117
(3) Administration cost	Audit of environmental management system, monitoring of environmental impact, etc.	470	-38	251
(4) Research and development cost	Development of environmentally friendly products, research in substitutes for toxic substances, etc.	1,134	-25	390
(5) Social activity cost	Tree planting, cleaning in local communities, donations, etc.	4	-2	3
(6) Environmental remediation cost	Assessment for environmental impact, cleanup of polluted soil, etc.	1,683	651	142
Total		5,304	357	2,462

For Furukawa Electric, the data in fiscal 2003 is recomputed under the same scope as for fiscal 2004. For affiliated companies, a change from those in the previous fiscal year.

## Investment and Research Cost

(Unit: million yen)

	Furukawa Electric	Affiliated Companies
<b>Investment and Research Cost</b>	<b>Amount</b>	<b>Amount</b>
Environment-related investment	433	786
Total investment cost	8,402	9,418
Total research cost	9,667	4,131

## Economic Benefit Associated with Environmental Conservation Activities

(Unit: million yen)

	Furukawa Electric	Affiliated Companies
<b>Contents of Benefits</b>	<b>Amount</b>	<b>Amount</b>
Revenues gained by recycling	179	75
Reduction in waste disposal costs	54	-27
Reduction in energy costs	30	-364
Reduction in water purchase costs	-3	0.3
Total	260	-316

\* - (minus) represents an increase.

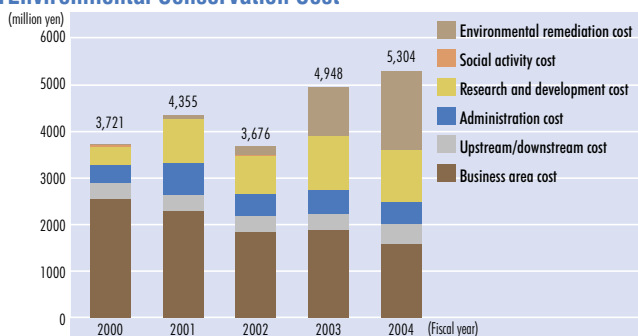
## Environmental Conservation Benefit

	Furukawa Electric	Affiliated Companies	
<b>Environmental Performance Indicators</b>	<b>Unit</b>	<b>Reduction</b>	<b>Reduction</b>
Industrial waste disposal amount*	t	2,202	-632
Energy consumed (crude oil basis)	1,000 kℓ	3	6
Water consumed	1,000 t	1,100	-564
Emission of volatile organic chemical compounds	t	2	-2
CO <sub>2</sub> emission	1,000 ton-CO <sub>2</sub>	5	15
SOx emission	t	-1	81
NOx emission	t	67	86
Soot emission	t	-2	-64

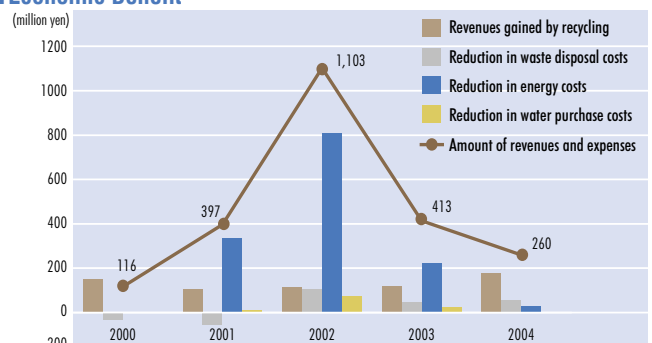
\* Amount excluding recycled waste

\* - (minus) represents an increase.

## Environmental Conservation Cost



## Economic Benefit



# Environmental Preservation Performance Indicators

Of the works of Furukawa Electric, the data for atmospheric emissions and wastewater quality of four Works that are registered as specialized plants are described below.

## ■ Chiba Works

### Atmospheric Indicators

Item	Unit	Equipment	Legal Standards	Self-imposed Standards	Average Value	Maximum Value
NOx	(ppm)	Boiler	180	180	57	94
		Melting furnace	180	180	26	41
Soot	(g/Nm <sup>3</sup> )	Boiler	0.2	0.2	0.009	0.017
		Melting furnace	0.1	0.1	0.032	0.042

### Wastewater Quality Indicators

Measurement Item	Unit	Legal Standards	Self-imposed Standards	Average Value	Maximum Value
pH		5.0~9.0	5.0~9.0	7.8	8.3
COD	(mg/l)	15	15	3.7	9.9
SS	(mg/l)	20	20	3.4	12.5
n-h (mineral oil)	(mg/l)	2	2	0.2	0.5

## ■ Nikko Works

### Atmospheric Indicators

Item	Unit	Equipment	Legal Standards	Self-imposed Standards	Average Value	Maximum Value
NOx	(ppm)	Boiler	180	180	111	130
		Melting furnace	200	200	32	41
		Dryer furnace	300	250	19	38
SOx	(K value)	Boiler	17.5	17.5	0.51	0.62
		Melting furnace	17.5	17.5	0.28	0.28
		Dryer furnace	17.5	17.5	0.20	0.20
Soot	(g/Nm <sup>3</sup> )	Boiler	0.3	0.3	0.003	0.003
		Melting furnace	0.2	0.2	0.002	0.002
		Dryer furnace	0.5	0.2	0.006	0.007

### Wastewater Quality Indicators

Measurement Item	Unit	Legal Standards	Self-imposed Standards	Average Value	Maximum Value
pH		5.8~8.6	6.0~8.5	7.3	7.4
BOD	(mg/l)	25	16	3.7	5.1
SS	(mg/l)	50	20	1.0	1.6
n-h (mineral oil)	(mg/l)	5	0.5	0.2	0.2

## ■ Mie Works

### Atmospheric Indicators

Item	Unit	Equipment	Legal Standards	Self-imposed Standards	Average Value	Maximum Value
NOx	(ppm)	Boiler	180	140	65	68
		Melting furnace	180	140	12	15
SOx	(Nm <sup>3</sup> /Hr)	Boiler	0.6	0.5	0	0
		Melting furnace	41.6	33.3	0	0
Soot	(g/Nm <sup>3</sup> )	Boiler	0.3	0.24	< 0.005	< 0.005
		Melting furnace	0.3	0.24	0.007	< 0.011

### Wastewater Quality Indicators

Measurement Item	Unit	Legal Standards	Self-imposed Standards	Average Value	Maximum Value
pH		5.8~8.6	6.5~8.5	7.4	7.7
BOD	(mg/l)	10	4	1.2	2.0
SS	(mg/l)	25	6	0.8	1.3
n-h (mineral oil)	(mg/l)	1	0.7	0.1	0.4

## ■ Osaka Works

### Atmospheric Indicators

Item	Unit	Equipment	Legal Standards	Self-imposed Standards	Average Value	Maximum Value
NOx	(ppm)	Boiler	150	120	2.0	2.0
		Melting furnace	200	160	2.0	2.0
		Heating furnace	170	144	2.0	2.0
SOx	(K value)	Boiler	1.17	1.17	0	0
		Melting furnace	1.17	1.17	0	0
		Heating furnace	1.17	1.17	0	0
Soot	(g/Nm <sup>3</sup> )	Boiler	0.10	0.08	0.001	0.001
		Melting furnace	0.20	0.16	0.001	0.001
		Heating furnace	0.25	0.20	0.001	0.001

### Wastewater Quality Indicators

Measurement Item	Unit	Legal Standards	Self-imposed Standards	Average Value	Maximum Value
pH		5.7~8.7	5.7~8.7	7.5	8.1
BOD	(mg/l)	300	10	4.0	9.0
SS	(mg/l)	300	50	12.2	26.0
n-h (mineral oil)	(mg/l)	5	2	1.2	2.0

## Social Performance

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Furukawa Electric defines “compliance” as “more than simply abiding by laws and regulations. Rather, compliance is based on the values and ethics that the company and its employees adhere to, as responsible members of society.”

# Social Contribution Activities

The Furukawa Electric Group is promoting social contribution activities as a member of society, through disaster relief support and exchange with local communities.

## Support and cooperation

### Relief Support for Earthquake off Sumatra and Tsunami Disaster

For the great earthquake that occurred off the Sumatra Island on December 26, 2004, Furukawa Electric, its domestic affiliated companies, affiliated companies in the disaster-stricken countries and volunteers of employees called for donations, and they made a donation of about 15.27 million yen to Japanese Red Cross Society, the local Chamber of Commerce and Industry, and the Department of Industry and Trade that were all fully engaged in relief activities in the disaster areas.



▲ Letter of thanks from the Japanese Red Cross Society

### Relief Support for Chuetsu Earthquake in Niigata Prefecture

We made a donation of 3 million yen to the Community Chest of Niigata Prefecture, for the Chuetsu Earthquake in Niigata Prefecture which occurred on October 23, 2004.

### Cooperation to Chiba Environmental Restoration Fund

Chiba Prefecture has created a “Chiba Environmental Restoration Fund” and aims to have the best natural environment in Japan, under the slogan of “Restore nature in our hometown!” The Chiba works of Furukawa Electric called for donations for this “Chiba Environmental Restoration Fund” from all its employees in the works. The proceeds and part of the profits gained from “Eco Fair Ichihara”, which totaled 145,000 yen, were handed over to the Chiba Prefecture Environment Foundation.

\*) The Chiba Environmental Restoration Fund is established in the Chiba Prefecture Environment Foundation, in order to promote the “Chiba Environment Restoration Plan” which was formu-

## Cleaning in Local Communities

The Furukawa Electric Group carries out cleaning activities in local communities, including the areas surrounding its respective business bases, and also coastal areas and rivers.



▲ Area surrounding the Ueda Plant of Totoku Electric



▲ Area surrounding the Nikko works



◀ Area surrounding the Hiratsuka works

## Communicating with the Community

Since fiscal 2002, the Chiba works has actively participated in “Eco-Fair Ichihara” held in the Ichihara Civic Center, and promoted interaction with local elementary schools in various ways.

The Hiratsuka works participated in an “Environmental Fair” hosted by City of Hiratsuka, which aims to be an Eco City, and also participated in a Forum for Environmental Symbiosis Corporations in Hiratsuka\*1, and introduced its environmental activities to the local community.

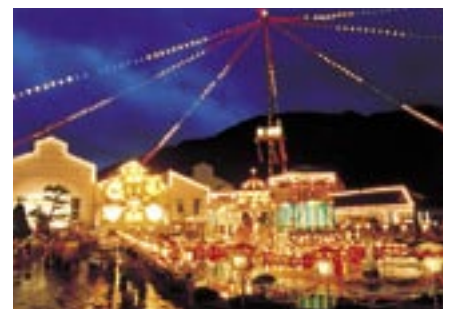
\* “Forum for Environmental Symbiosis Corporations”

This Forum was formed by an appeal of the Industrial Labor Administration Section of Economy Department of the City of Hiratsuka in 2000, consisting of corporations interested in Hiratsuka. The main activities include exchanging information about the environment, conducting tours of environment-related facilities and hosting an Environmental Fair.



▲ Hiratsuka Environmental Fair

The Nikko works opened its premises to the public and hosted a “Nikko Waraku Odori Dance”. A total of about 20,000 tourists and local people wearing the Yukata participated in this dance, which encircled the Waraku Pond located in the works.



▲ Nikko Waraku Odori Dance

The Nikko works and affiliated companies including Nippon Foil Mfg. invited local elementary school pupils to a tour of the plant.



▲ Tour of the Nikko works by elementary school pupils

# Human Resources, Safety, Health and Compliance

Furukawa Electric believes that its asset is “people”. We are working on creating a comfortable working environment for our employees.

## Relations with Employees

### Furukawa Electric’s View on the Relationship Between the Company and its Employees

Furukawa Electric is striving to build a sincere relationship with its employees, based on trust and responsibility. In addition, through business and work, we are aiming to establish more constructive relations in which the company and our employees can enhance each others abilities and values.

### Placement, Evaluation and Job Conditions

We are working to provide opportunities for placements and job assignments, emphasizing individual motivation and abilities based on the concept of equal opportunity. As a part of this move, we are implementing various interview systems and providing opportunities for employees to reflect on their career goals.

Regarding evaluation and incentives, we have adopted an incentive program for the fair evaluation and treatment of our employees, according to their abilities and performance. We are also working on training managers to have performance evaluation skills, in order to improve the management of the system and win the trust of our employees.

### Education and Training Systems

We believe that the strength of our company lies in the synergy of the abilities of each employee at the work site and that each employee’s ability is enhanced in a practical way through everyday work.

Furukawa Electric provides a place for individuals to grow through work, and provides opportunities to support a proactive approach for the development of skills by motivated employees. These opportunities include training, distance learning and support for acquiring qualifications.

### Support System Corresponding to Various Ways of Working

We respect our employee’s lifestyles and have established various support systems that enrich each individual’s personal life.

Various Systems	Purpose / Content
Flexible Working Hours	We adopt a system of flexible working hours which enables employees to work efficiently according to business demand. We support employees having flexible working hours that suit their lifestyle.
Refresh Holiday	Employees are able to take three consecutive days off once a year, and five consecutive days off every five years, so that they can enjoy well-planned holidays and refresh their minds and bodies.
Holiday Accumulation	A maximum of 10 days out of the remaining regular annual holidays can be carried forward to the accumulated holidays (effective for five years).
Maternity and Paternity Leave	Any employee who has a child under one and half years of age can take maternity or paternity leave for a duration of their choice, until their child is one and a half years old.
Nursing Care Leave	In cases where an employee’s spouse, child or parents (including the spouse’s parents) need nursing care, that employee is able to take nursing care leave for up to one year, if certain conditions are fulfilled.
Retirement Seminar	For union members who reach a certain age, labor and management jointly provide Retirement Seminars, with the aim of enhancing their current lifestyle and supporting their lifestyle after retirement.

## Safety

### Company-wide Priority Safety Activities

Activities are carried out by focusing on the company-wide priority safety activities, which are decided according to the Safety Control Guidelines issued in fiscal 2004.

### Occupational Safety and Health Management System

The Chiba works made an introductory declaration to establish this system and is proceeding with setting up the basis of this system and educating users about it, setting fiscal 2004 as a preparatory period.

#### 1. “Improvement of compliance management system of dangerous and hazardous work”

We investigated the level of standardization that has been achieved by operation chiefs, and the daily management system of dangerous and hazardous work according to laws and regulations, and quantitatively evaluated the management status at each works, each division and each department to clarify the items that need to be corrected.

We will improve the system by continuously carrying out these activities.

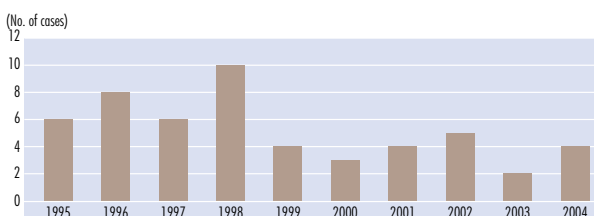
#### 2. “Recheck of safe passage and safe transportation rules and improvement of forklift truck driving skills”

Forklift truck accidents and near-miss accidents continue to occur. We held a company-wide forklift truck driving competition for the first time, as a centerpiece for reestablishing walking and driving safety in the works. We held an all-encompassing company-wide competition which included our suppliers, with the aim of re-educating drivers about basic driving skills, which they learned when they obtained their driving licenses, and also with the aim of helping supervisors to recheck the driving skills that are required by laws and regulations, and raise awareness of the need for daily checks, bearing in mind that supervisors do not necessarily have a forklift truck driving license themselves.

### Safety Education

Focusing on standardization activities, we are promoting the standardization of C-ranked specifications of facility safety design standards in conformity with ISO12100 and company-wide education about work standards. In particular, process analysis is important to properly establish work standards for irregular tasks in which there is a high occurrence of accidents. We are working on these activities, and changing our conventional mindset.

### Number of accidents that led to cessation of work



From “News from Chiba Standards Association” Mr. Eto, Senior Vice Minister of Health, Labor and Welfare, paid a visit to the Chiba works and observed the actual situation of the safety and health management. He observed the copper wire rod manufacturing site and the optical fiber amplifier manufacturing site.

## Health

### ■ Mental Health Care

Furukawa Electric has been promoting company-wide mental health measures since 2002, in line with “Guidelines for Mental Health in the Work Place” published by the Ministry of Health, Labor and Welfare (former Ministry of Labor). In fiscal 2004, managers and supervisors trained general employees with the aim of sharing accurate knowledge about mental health among all our employees. In fiscal 2005, we are targeting managers with an advanced course, incorporating case studies, to help them acquire skills in practical response for preventing and responding quickly to any mental health problems.

### ■ Health Care for Employees that Work Long Hours

Based on the guidelines issued by the Labor Standards Bureau “Measures employers should take to prevent health problems caused by overwork,” we are committed to the health care of our employees that work long hours by placing strict restrictions on the time they work, based on the results of a medical examination, and using a consultation system which involves a medical officer and the employee who works long hours. Furthermore, in fiscal 2005, we will raise health awareness by holding a training session for managers and supervisors, concerning the prevention of health prob-

lems of employees who work long hours at each of our works.

### ■ Promoting separate smoking areas

We set up more than 70 smoking rooms during fiscal 2004 to promote separate smoking areas, in line with the “Guidelines for Smoking Measures in the Workplace”, a notification issued by the Director-General of Labor Standards Bureau in 2003. We will continue to positively promote the prevention of passive smoking.

## Compliance

The Furukawa Electric Group carries out the following activities to promote compliance.

We define “compliance” as “more than simply abiding by laws and regulations. Rather, compliance is based on the values and ethics that the company and its employees adhere to, as responsible members of society.”

I Establishment of the Furukawa Electric Group Action Guidelines and ensuring company officials and employees adhere to this philosophy

II Setting up a Compliance Committee

We have set up a “Compliance Committee” to promote and strengthen the compliance system at Furukawa Electric and its affiliated companies at home and abroad.

### Contents of Concrete Activities of the Committee

- Awareness and education concerning compliance
- Grasp and analysis of risk status concerning compliance, internally at Furukawa Electric and in the Group
- Reporting the management status of the compliance system at a management conference

## Furukawa Electric Group Action Guidelines

**We, company officials and employees of the Furukawa Electric Group, will:**

1. Abide by the laws and regulations in Japan and abroad, and act in conformity with internal rules and external rules such as social codes and ethics;
2. Properly display and adequately disclose corporate information, including financial statements;
3. Deal with antisocial groups in a resolute manner;
4. Aim to be a company that is useful to society by developing products that aid the development of society and by providing reliable products and services;
5. Try to act with consideration for the protection of the global environment;
6. Respect human rights, cultures and traditions as a member of the international community;
7. Create a company in which employees can feel a sense of reward, ease and fulfillment; and
8. Maintain and develop sound and good relations with all stakeholders.

## I will further establish the traditions of Furukawa Electric.



**Nozomu Amano**  
General Manager of  
Legal Department

The Compliance Committee’s office is set up in the Legal Department. The successive management of Furukawa Electric states that we should “conduct correct management fairly and squarely” as one of our policies, and you could say that the spirit of compliance is one of our traditions. I am determined to let this inherited tradition permeate further, among all the company officials and employees of the Furukawa Electric Group, through the activities of the Committee.

# Environmental Education and Enlightenment Activities

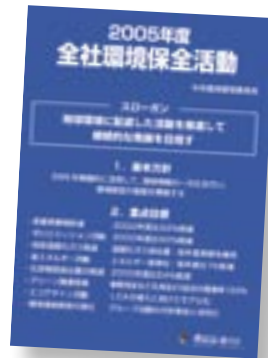
This section introduces environmental education and enlightenment activities for employees of Furukawa Electric.

In order to improve the environmental awareness of our employees, we put up an environmental campaign poster every year in each work place. These posters contain a slogan for environmental preservation activities, a Basic Environmental Policy and major activity targets for the fiscal year. In June, which is designated as the month of environmental preservation, the chairman of the Central Committee for Environment Management delivers a message to all the employees. In addition, each works carries out activities such as distributing leaflets that inform the employees about the environmental preservation month, installing notice boards, calling for a catchphrase concerning the environment, implementing the 5S activities in and around the Facilities' premises and conducting night-time patrols.

## ■ Environmental Seminar for Executives

In order to further promote awareness among managers about environmental activities, we held a second seminar for managers of consolidated companies, following on from last year. We invited university professors and managers of the environmental divisions of Japan's leading companies, who are experts in environmental issues, as speakers.

We held a lecture entitled "CSR Required: Its Management Issues" and "Environmental Management and Initiatives of Green Procurement at NTT" in September 2004. A total of 87 top officials,



including the President, executive directors, members of the Central Committee for Environment Management and personnel in charge of environmental management at Facilities of Furukawa Electric, and presidents and other managers of affiliated companies participated in this lecture.

## ■ Environment-related Education

We conducted education sessions for our new employees, and the employees of our administrative divisions and engineering divisions in their second year of employment (a total of 77 people), about environmental problems in general. In addition, at each works and workplace, we conducted as necessary a general environmental education session at the time when employees are assigned to a division, and conducted special education

sessions relating to specific work.

## ■ Support for Education for Affiliated Companies

We provided education sessions relating to environmental problems in general, and environment-related laws and regulations, for executives and managers of affiliated companies at their request.

## ■ Level-up Seminar for Internal Auditors

Following the revision of ISO14001 Standards, we held a seminar relating to this revision. A total of 18 internal auditors centering on the EMS Office attended this seminar from each of the works.

## ■ Education Session for Training Internal Auditors

We held a seminar for training internal environmental auditors six times, and trained a total of 95 internal auditors, including 54 from Furukawa Electric and 41 from its affiliated companies.



### Attending a seminar for internal environmental auditors

I was given a chance to attend a seminar for internal environmental auditors. A total of 13 employees participated in the seminar this time, and the lecturer was from the Safety, Environment & Quality Promotion Dept. of the Head Office. On the first day of the seminar, there was a lecture and an exercise on the environmental management system and related laws and regulations. On the second day, participants were divided into groups of four or five people, and each group reviewed the lecture and exercise that had been given on the previous day, they examined a document, and simulated an audit of the site. The seminar was a two-day course, although in the past the same seminar had been a three-day course. I felt that the seminar was pressed for

time and that the lecture proceeded a little too fast. Everybody was surprised when the lecturer said to us "You are an internal environmental auditor from today. You will attend the internal environmental audit at the end of the year." Although the seminar was completed, I was not at all confident about practicing audit work immediately. Thus, I may participate in the internal environmental audit this time and consider it as "on-the-job training." I may cause trouble to the people concerned and I would ask for their advice and guidance.



**Teruko Kikui**  
Design & Engineering Section,  
Plant Engineering Department,  
at Nikko works



# Environmental Performance of the Works

The works of Furukawa Electric engage in activities to harmonize with the local community as a good corporate citizen.

## Chiba Works | Continues to be a leader in environmental preservation

Located almost in the center of the Keiyo Seaboard Industrial Area, one of the leading petrochemical industrial zones in Japan, the Chiba works is engaged mainly in manufacturing of wire materials, power cables (currently manufactured by VISCAS), communication cables, and also develops and manufactures large-capacity communication equipment.

The Chiba works has taken the lead role in environmental preservation activities at Furukawa Electric by acquiring ISO14001 in 1998, ahead of our other works. Something that is especially noteworthy this time is zero emission (landfill waste of 1% or less) which we have been striving for, for four years. Our steady efforts have borne fruit and we expect to achieve zero emission during fiscal 2006.

Waste is a resource - we have thoroughly sorted the waste at sites in our works under this principle. Now there is a high environmental awareness shared among our employees, to the degree that a work site can suggest the possible recycling of items to the EMS Office. These activities have grown to such an extent that recycling activities have turned a profit. In fiscal 2004, the profit made on the sale of items for recycling exceeded our waste disposal costs, surpassing the break-even point. This is an outstanding



▲ Ecology Fair

achievement for an electric wire-related business.

On the other hand, we have also continued to promote exemplary activities, in terms of active participation in the local community. We aim to become a works that acquires a favorable reputation among local residents, by providing them with wooden planters made from collected wooden drums, delivering at no charge organic fertilizer made from raw garbage from the company cafeteria, and providing cooperation to the Chiba Environmental Restoration Fund.

We will continue to play the lead role in Furukawa Electric, based on individual employee's activities in line with compliance, not to mention the agreement between the city, the prefecture and ourselves.



▲ Coastal Area Festival



▲ Plant Tour

### Chiba Works



Location: 6, Yawata Kaigandori, Ichihara-shi, Chiba  
Lot area: 672,000 m<sup>2</sup>  
Number of employees: 1,550 (as of April 2005)



**Toru Kumabe**

Manager of Chiba Works

Although the core businesses of this works, the telecommunication business and power cable business, have been forced to engage in a hard-fought struggle amid a severe economic environment for the last few years, our environmental preservation activities have yielded results in one form or another. When I moved to this works from our Head Office last year, I was really surprised at the high awareness for environmental preservation.

A full seven years have passed this year since the acquisition of ISO14001, and the production system of the works has undergone a large change, such as the inauguration of VISCAS due to the alliance of the electric power business

at the beginning of the year. We will take this opportunity to further step up our activities based on our social responsibility.

Meanwhile, there was one thing that deserved special mention in fiscal 2004. The income exceeded the expenses with respect to environmental preservation costs. This is a result of our honest and steady efforts so far, and has brought a great sense of accomplishment to all the employees of the works. Environmental preservation costs are a big management issue in promoting corporate activities. Not satisfied with this result, we will set an even higher target to lead the environmental preservation activities of the entire company.

## Environmental Performance of the Works

### Osaka Works | Contribute to a sustainable society with technological innovation

The Osaka works, which has a long history as the mainstream works for Furukawa Electric's Metals Group, has been manufacturing copper and copper alloy products including copper tubes used in heat exchangers for air conditioners.

The thermal conductivity of copper tubes, which are often used in heat exchangers, plays an important role in improving the energy efficiency of air conditioning systems. The Osaka works continues to make improvements and contribute to energy conservation, by providing air conditioner manufacturers with high-performance copper tubes.



▲ Cleaning activities around the works

The Osaka works has unified to work on energy conservation, and almost achieved the target of reducing the amount of energy used by 1% over the previous year, every year. This achieve-

ment results from our repeated and steady efforts to improve the efficiency of our energy consumption by modifying facilities and reviewing the process flow at production sites, and setting the temperature for air conditioning at 28°C or higher and turning off lights during office lunch breaks.

Furthermore, we have achieved excellent results in waste reduction. From fiscal 2000, when we acquired ISO14001, to fiscal 2004, we have reduced the amount of equipment lubricant and working fluids used with 5S improvement activities, and in addition we have reduced the total amount of waste by 60%, by recycling paper garbage from offices.

Recently we have started positively working on reusing discarded copper tubes used in heat exchangers as a raw



▲ Enlightenment activities of energy conservation

material. We will continue to work to effectively use resources and reduce waste, with the aim of becoming an even more environmentally friendly works.



▲ We received recognition for "Plant Excellence in Wastewater Control" from the city of Amagasaki.

#### Osaka Works



Location: 6, Doicho 7-chome, Amagasaki-shi, Hyogo  
Lot area: 136,000 m<sup>2</sup>  
Number of employees: 330 (as of June 2004)



**Shigefumi Chigusa**  
Manager of Osaka Works

**B**roadly speaking, there are two issues surrounding our environmental initiatives at this works. One is to improve the energy efficiency of customers' products (air conditioners, for example) and to contribute to social energy conservation by enhancing the efficiency of copper tube products, which are manufactured by us. Although copper tube products are said to be approaching maturity, there are technical issues which we believe can be improved. We intend to continue to manufacture highly-efficient products that help to achieve a sustainable society.

Another issue is energy conservation and waste reduction in the works. It is difficult to

produce improved results just by repeating conventional methods. The targets for energy conservation become larger every year. We aim to continuously achieve these targets, by further raising awareness of environmental preservation among individual employees and devising new measures.

## Yokohama R&D Laboratories | Pursues environmental preservation truly for people

Yokohama R&D Laboratories aims to improve the basic technologies that support other companies, as a key center of our research and development activities, as can be seen from the development of a high-power semiconductor laser for optical fiber amplifiers (honored with the Okochi Memorial Production Award), and at the same time, is working on the research and development of leading-edge technologies that will form the core of our next-generation businesses in the medium- to long-term.

We acquired ISO14001 certification in 2002. Unlike plants, we do not have a large production line, but because we handle chemical substances and high-pressure gases, we have fully studied their control methods. Priority items for fiscal 2004 are “research and development in consideration of the environment,” “strengthening of chemical substance control and prevention of water pollution,” “effective utilization



▲ Cleaning activities



▲ Soccer class in the grounds of our laboratories

of resources and reducing and recycling waste” and “promotion of energy conservation activities.” Among different types of research and development, in consideration of the environment we have worked on the introduction and operation of DfE, the technical development of lead-free solder and the development of analysis technology in consideration of the environment.

With regard to analysis technology, we make precise measurements to evaluate the presence or absence of minute amounts of substances that will impact on the environment in the products of Furukawa Electric and affiliated companies, utilizing know-how and analysis technology which has been accumulated at the Analysis Technology Center of our laboratories. We contribute to our green procurement and product development through the development and establishment of such analysis technology.

We will continue to promote research and development activities, with an increased awareness for the environmental preservation that is essential for the creation of new products and new businesses, with an eye towards the next generation.

### Yokohama R&D Laboratories



Location: 4-3, Okano 2-chome, Nishi-ku, Yokohama-shi, Kanagawa  
Lot area: 19,881 m<sup>2</sup>  
Number of employees: 300 (as of April 2005)



**Kazunori Nakamura**  
Manager of Yokohama R&D Laboratories

I frankly feel that awareness of the environment has become rooted in every single employee. This is because, although we do not have large lines unlike plants, every single employee controls chemical substances and the like, during their research and development work. Routine consideration to the environment of each employee leads to effective utilization of resources and the reduction and recycling of waste.

Our laboratories are located in a residential area of Yokohama, and at the very least, an environmental issue is not to cause inconvenience to the local residents. We have never received any complaints from them so far,

but we will try to give more friendly consideration to the local environment, by completely eliminating any abnormalities in the wastewater produced by our research.

There is a recreational ground on the premise of our laboratories, and it is used by the local residents for soccer classes and the Bon festival dance. We have upgraded the toilets in the recreational ground so that the local residents are not inconvenienced when they need to use them. We will work on environmental problems without neglecting our friendly consideration for people.

## Environmental Performance of Affiliated Companies

This section introduces the environmental preservation activities of the affiliated companies of Furukawa Electric.

### Access Cable Company

#### History

The Access Cable was established through the merger of the former Nishiura Electric Wire Co., Ltd. and the former Kyushu Okano Electric Wire Co., Ltd. in April 2002. Our Head Office is located in Tokyo, and we have factories in Hokuriku (Ishikawa Prefecture) and Kumamoto. Our main business is manufacturing optical fiber cables, indoor and outdoor wires, LAN cables and coaxial cables.

We hope to satisfy our customers through the development and manufacturing of products as well as to contribute to society, even if it is only slightly. We are promoting our activities, while always keeping harmonization with the environment in mind, and giving consideration to environmental preservation.

#### Environmental Preservation Activities

We set up an Environmental Committee at each of our factories, making it our basic policy for promoting environmental preservation activities that recognition of protecting the global environment as a manufacturer is the most important thing with regard to our social responsibility as a corporation and that each employee pledges to improve environmental preservation while putting emphasis on being environmentally-friendly in addition to that we contribute to achieving an affluent society in which all the people can live safely.

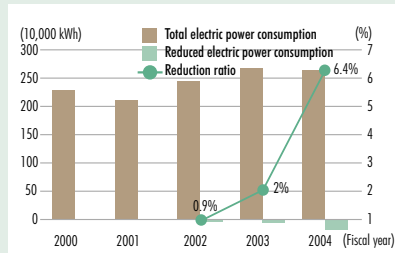
- The Kumamoto Factory acquired ISO14001 in October 2000
- The Hokuriku Factory acquired ISO14001 in December 2004

#### Priority Items

##### ① Reduction of electric power consumption

We introduce energy-saving facilities in a systematic way, to reduce greenhouse gases, and carry out our activities with awareness of saving power in our daily air conditioning, plant lighting and office automation equipment.

#### ■ Reduction of Electric Power Consumption



(Data of Kumamoto Factory)

##### ② Reduction of waste

Aiming at reducing waste from factories and recycling 100% of our waste (zero landfill disposal), we have worked on the control of emissions, reusing material, recycling material and thermal recycling, in the order described.

- Since September 2001 PE has been sold as a valuable material to be recycled.
- Since October 2002 non-valuable plastic waste, except PVC, has been thermally recycled.
- Since October 2003 optical fiber cable scraps have been sorted and thermally recycled.
- Since October 2004 plastic bobbins and transparent PE bags have been sorted and the material has been recycled.
- Since October 2004 sorting standards have been subdivided and plastic waste has been thermally recycled.

##### ③ Reduction of hazardous air pollutants

In June 2004 we completely stopped the use of trichloroethylene as a fluid for washing coaxial cable cores.

##### ④ Enlargement of green area

On the 30th anniversary of the Kumamoto Factory, all the employees planted trees.

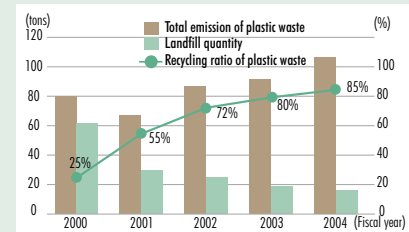


#### Local Community Activities

We participated in river cleaning activities hosted by the town.

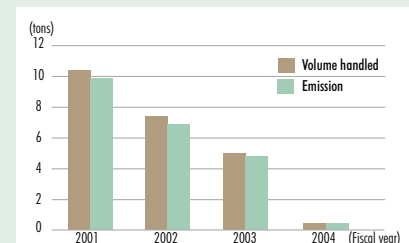


#### ■ Total Emission and Recycling Ratio of Plastic Waste



(Data of Kumamoto Factory)

#### ■ Volume Handled and Emission of Trichloroethylene



(Data of the Hokuriku Factory)

#### Access Cable Company



Head Office: NF Kanda Building 4F, 1-8-9, Kanda-Nishiki-cho, Chiyoda-ku, Tokyo  
 Hokuriku Factory: 19-3, Wakabadai, Shika-machi, Hakui-gun, Ishikawa  
 Kumamoto Factory: Ouaza Sougawa 2001, Kosa-machi, Kamimashiki-gun, Kumamoto  
 Number of employees: 113

#### Enquiries and further information

EMS Office, Kumamoto Factory  
 TEL: +81-96-234-1180 FAX: +81-96-234-1181

# Asahi Electric Works Co., Ltd.

## History

The Asahi Electric Works has been an exclusive manufacturer that has played an important role in power transmission and distribution technology from its foundation in 1948, right up until the present day. We are invigorated to take steps forward toward future energy transportation and information transmission support technology, based on our technology which has been cultivated for over 50 years.

## Environmental Preservation Activities

We are promoting preservation activities making it our basic policy that we have an obligation to preserve the global environment and to protect our precious earth in order to pass it on to our descendants in a good condition and that we will assume our social responsibility as a corporation by contributing to the establishment of a better environment for people, society and the earth. We acquired ISO14001 in February 2003. When ISO14001: 2004 was published, we quickly responded to it and had a Transition Audit in February 2005, switching to the 2004 version. Taking this opportunity, we will work on our activities with fresh spirits.

## Environmental Policy Item

1. Promotion of energy saving to prevent global warming
2. Reduction of the amount of environmental impact substances used (complete elimination of trichloroethylene)
3. Reduction and recycling of waste
4. Development of products that reduce the impact on the environment

Of the above, which are set as priority items, number 2, the "complete elimination of trichloroethylene" was achieved one year earlier than we had planned, and our activities for eliminating it are introduced below.

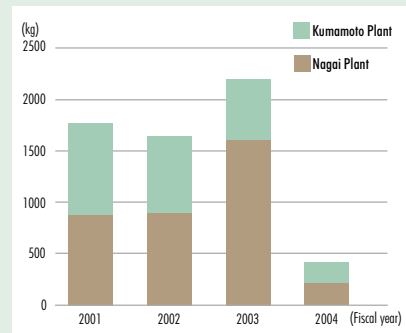
## Reduction of Amount of Environmental Impact Substances Used (Complete elimination of trichloroethylene)

Trichloroethylene is said to be a carcinogenic and a pollutant of groundwater, and its use has been regarded as a problem. We used a combined amount of 1,700 kg to 2,000 kg at the Nagai and Kumamoto plants each year for cleaning machined parts and as a solvent for a surface treatment agent for processed electric parts. The staff in charge of engineering and manufacturing started promoting activities in fiscal 2002 to completely eliminate the use of trichloroethylene.

The trichloroethylene that was used for cleaning purposes was eliminated by changing cutting oil to a water-soluble agent, thereby eliminating the need for cleaning altogether. However, we had great difficulty in selecting a substitute for trichloroethylene as a solvent for surface treatment, because there were two kinds of products (aluminum and copper) to be surface treated, and we had to select substitutes that were suitable for both of these materials. There were more than ten kinds of potential replacement candidates, and we spent a considerable amount of time and labor on this problem, but our efforts were rewarded with success when we found a suitable chemical. The trial product passed the required quality level in the performance test, and the safety data sheet confirmed it had no impact on the environment, and so we could eliminate the use of trichloroethylene at the Nagai plant in August 2004. Then, we extended this approach to the Kumamoto plant and in November 2004 at last we achieved complete elimination.

We had to deliberate carefully, because we needed to select a substitute without impairing the quality of our products, and we are proud to say the enthusiastic initiatives of the staff concerned brought about the success.

## Change in Annual Amount of Trichloroethylene Used



Nagai Plant: Achieved complete elimination in August 2004

Kumamoto Plant: Achieved complete elimination in November 2004

## Future Activities

A thinner used by some of our products as a degreaser contains toluene, an environmental impact substance. We will work to reduce the amount of thinner used in the future.

## Asahi Electric Works Co., Ltd.



Head Office: 2-11-16, Azamino-Minami, Aoba-ku, Yokohama-shi, Kanagawa  
Nagai Plant: 1812, Imaizumi-Yamada, Nagai-shi, Yamagata  
Kumamoto Plant: 556, Kyokushifumoto, Kikuchi-shi, Kumamoto  
Nikko Plant: 500, Kiyotaki-machi, Nikko-shi, Tochigi  
Number of employees: 220

**Enquiries and further information**  
Quality and Environment Group, Head Office  
TEL: +81-45-910-2800 FAX: +81-45-910-2809

## Environmental Performance of Affiliated Companies

### Furukawa Logistics Corporation

#### History

Furukawa Logistics was established in October 1980, having been separated from the logistics section of Furukawa Electric, as a trucking, packing and packaging, and warehousing business.

Then, we were entrusted with all the works and nationwide distribution centers of Furukawa Electric and the works of Furukawa-Sky. In 2000, we established the Oyama Distribution Center, and in 2003 we set up offices in China (Shanghai, Guangzhou and Tianjin).

Our business covers a wide range of areas, including logistics-related businesses such as transportation, customs brokerage, warehousing businesses and logistics consultancies, and general worker dispatch businesses.

#### Environmental Preservation Activities

We have formulated our quality and environmental policy to achieve, through economic activities of logistics, "an affluent society in which people in the world understand each other and make full use of humanity, individuality and creativity" as defined in our management policy, and promoted environmental preservation activities.

We acquired ISO14001 certification at 14 bases of our Branch Offices and Centers nationwide including the Head Office in June 2002, aiming at becoming an environmentally friendly logistics company.

We are going to have a combined audit of ISO14001: 2004 and ISO9001: 2000 in May 2005.

#### Environmental Preservation Activities (Fiscal 2002 to fiscal 2004)

##### ① Reduction of NOx per ton · kilometer from vehicles

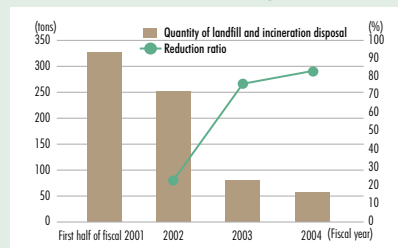
The NOx emission from trucks, our main means of transportation, was reduced by 6% over the first half of fiscal 2001 per product transportation ton-kilometer.

##### ② Reduction of the quantity of landfill and incineration disposal

The landfill and incineration quantity of waste was reduced by 84% over the first half of fiscal 2001. Activities that largely contributed to the reduction were the recycling and repairing of collected wooden drums for electric wires, for their reuse, as well as collecting and reassembling materials after the disassembly

of these drums, in order to produce new drums. When there were materials that had to be discarded, various ideas were generated including using them as litter for horses (at our Sapporo Center) or using them as boards by reducing to chips (at another center).

##### ■ Landfill and Incineration Disposal



##### ③ Deployment of support activities for Green Management Certification acquisition

We began to encourage transportation and delivery companies to acquire Green Management Certification and help the main special delivery transportation companies acquire this certification. We will start with the Chiba Branch Office in fiscal 2004 and expand our support throughout the country.

We held an Eco-Drive seminar because one of the criteria for Green Management Certification is the practice of eco-drive techniques. We obtained cooperation from a truck manufacturer and held the seminar at the Chiba Branch Office and the Kanto Distribution Center in September 2004 and March 2005. The participating drivers of trucking companies learned "low fuel consumption driving techniques (eco-drive)."



▲ Eco-Drive Seminar



▲ 4-ton Unic truck used for driving at Eco-Drive seminar

Effect of Eco-Drive		
	Before seminar	After seminar
Average speed	23.5 km/h	22.3 km/h
Fuel consumption	4.26 km/ℓ	5.59 km/ℓ

CO<sub>2</sub> Emission  
When 4,000 liters of fuel is used per month:  
Conventional driving / 4,000 liters / Emission of about 10.5 tons of CO<sub>2</sub>  
After fuel saving / 3,053 liters / Emission of about 8.0 tons of CO<sub>2</sub>  
It is possible to reduce the emission of CO<sub>2</sub> by about 2.5 tons per month.

#### \*Eco-Drive in Trucks

Driving technique for fuel saving

- ① Gradual starting acceleration
  - ② Use of upper gear for improved fuel economy
  - ③ Maintaining a constant speed
  - ④ Engine speed within the green zone
  - ⑤ Unsteady driving is an enemy of fuel economy
  - ⑥ Using an engine brake
  - ⑦ Refraining from speeding
  - ⑧ Short periods of idling
  - ⑨ No strong idling
- Provided by Hino Motors, Ltd.

##### ④ Reduction of Electric Power Consumption

We promoted company-wide energy saving activities, targeting at a reduction of electric power consumption. Electric power is mainly used for lighting in our offices and work areas, and outdoor lighting. It was reduced by 16% over the first half of fiscal 2001.

##### ⑤ Reduction of Purchased Amount of Office Paper

We worked on reducing the purchased amount of office paper, by using the back side of used paper, as an initial environmental activity, with the aim of raising company-wide awareness, and we reduced the amount by 31% over the first half of fiscal 2001.

#### Future Activities

We plan to carry out the following activities from fiscal 2005.

1. Reducing the number of accidents
2. Reducing electric power consumption
3. Reducing NOx per ton-kilometer from vehicles
4. Reducing the quantity of landfill and incineration disposal
5. Deploying support activities to acquire Green Management Certification
6. Preparation of ton-kilometer data to be provided to consignors, with respect to the revision of the Rationalization in Energy Use Law, to take effect in 2006
7. Participation in environmental preservation activities in cooperation with municipalities

#### Furukawa Logistics Corporation



Head Office: Furukawa Electric Kanda Building 6F, 16-8, Uchikanda 2-Chome, Chiyoda-ku, Tokyo  
Number of employees: 239 (as of the end of March 2004)

#### Enquiries and further information

ISO Office, Quality Assurance Dept.

TEL: +81-436-42-9311 FAX: +81-436-42-9350

# ● Progress in Environmental Management

- 1972 Company-Wide Regulations for Pollution Prevention formulated
- 1974 Environmental Control Department established  
Energy-conservation Team started
- 1989 Team for Reduction in Use of Specified CFCs started
- 1992 Renamed from "Team for Reduction in Use of Specified CFCs" to  
"Team for Reduction in Use of Ozone Layer Depletion Substances"
- 1993 Basic Framework for Protecting the Global Environment formulated  
(Furukawa Electric's voluntary plan of environmental preservation)
- 1994 Committee for Company-Wide Promotion of Energy Conservation  
started
- 1996 Specified CFCs and trichloroethane completely eliminated from the  
company
- 1997 Team for Promotion of Reduction in Industrial Waste started
- 1998 Furukawa Electric Basic Environmental Policy formulated  
Central Committee for Environmental Management started  
Committee for the Development of Environmentally Friendly Products  
started  
Chiba works acquired ISO14001 certification  
Mie works acquired ISO14001 certification  
Company-Wide Regulations for Environmental Management  
formulated revising the "Company-Wide Regulations for Pollution  
Prevention"
- 1999 Safety, Environment and Health Promotion Department started,  
incorporating the Environment Control Department and the Safety  
Control Divisions
- 2000 Ecology and Energy Laboratory established  
Liaison Meeting with Affiliated Companies established  
Environmental Report began to be issued  
Meeting of Environmental Personnel started  
Hiratsuka works acquired ISO14001 certification  
Osaka works acquired ISO14001 certification
- 2001 Medium-Term Plan for Environment Preservation Activities 2002  
formulated (for 2001 - 2002)  
Shinagawa works acquired ISO14001 certification  
Environmental accounting started to be disclosed
- 2002 Nikko works acquired ISO14001 certification  
Yokohama Laboratories acquired ISO14001 certification  
Green Procurement Preparation Committee started
- 2003 Furukawa Electric Basic Environmental Policy revised  
Medium-Term Plan for Environment Preservation Activities 2005  
formulated (for 2003 - 2005)  
Green Procurement Executive Committee started  
Liaison Meeting of Consolidated Environmental Management started  
Seminar for executives of consolidated companies held
- 2004 Medium-Term Plan for Environment Preservation Activities 2005  
revised (for 2003 - 2005)  
Renamed from "Safety, Environment and Health Promotion  
Department" to "Safety, Environment and Quality Promotion  
Department"
- 2005 Green Product Management Committee started

## Company Profile

Head Office : 6-1, Marunouchi 2-Chome,  
Chiyoda-ku, Tokyo 100-8322 Japan

Founded : 1884

Changed firm name : 1920

Paid-in Capital : 69.2 billion yen

Number of employees : 4,922

Works : Chiba works, Nikko works, Hiratsuka  
works, Mie works, Osaka works, Yokohama  
R&D Laboratories

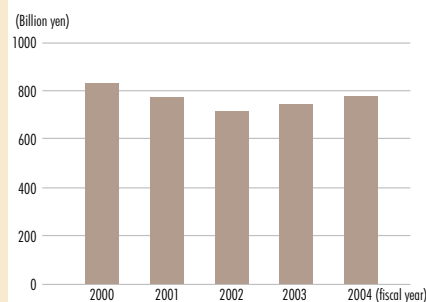
Sales Offices : Kansai Branch Office, Chubu  
Branch Office, Kyushu Branch Office

Research Laboratories : Yokohama R&D  
Laboratories, Metal Research Center, Ecology &  
Energy Laboratory, FITEL Photonics Laboratory,  
Automotive Technology Center

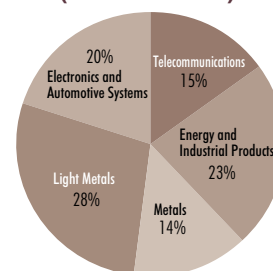
(As of April 1, 2005)

\* The Shinagawa works in this report became the Head Office  
of VISCAS in January 2005. The Kambara works closed in  
March 2005.

### ■ Total Sales (Consolidated)



### ■ Sales Composition Ratio (Consolidated)



### Information Disclosure on Web site

On our Web site, we disclose how Furukawa Electric is promoting its environmental preservation initiatives, and present past environmental reports in PDF format.

**Furukawa Electric's Web site**

<http://www.furukawa.co.jp/english/>



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