Furukawa Electric Basic Environmental Policy





Furukawa Electric recognizes that the preservation of the global environment is a critical issue for society and takes the environment into consideration in every aspect of its corporate activities to help create a sustainable, happy and prosperous society.

- We shall maintain a constant awareness of the impact of our corporate activities on the environment, with each and every employee involved in environmental preservation activities.
- In addition to complying with environmental laws and regulations and with requirements from our customers and other sources, we shall also set out voluntary standards to establish greater levels of control.
- We shall set out environmental targets and objectives and systematically carry out activities accordingly to continuously improve our efforts to protect the environment.
- Environmental concerns shall be taken into consideration at every phase of our work, from the R&D and design stages onwards, to supply environmentally friendly products.
- We shall strive to reduce consumption of resources and energy, to promote recycling, to reduce waste and to minimize environmental impact at every stage of our activities, from procurement and manufacturing to distribution and customer service.
- We shall conduct environmental audits and review our environmental management system and environmental preservation activities to make continuous improvements.
- In addition to raising employee awareness through environmental education, we shall promote the disclosure of information and communication with the public and play an active part in community activities.



Environmental Management Targets and Performance

Having devised a set of targets for the four year period from fiscal 2006 to fiscal 2009 in the form of the 2009 Medium-Term Plan for Environmental Preservation Activities, Furukawa Electric continues to promote environmental activities accordingly. We also set out annual Priority Environmental Preservation Activity Targets, based on which we map out objectives, targets and action plans as part of the environmental management systems at each of our bases. On a Group basis, we formulate common activity targets as part of consolidated environmental management, with each individual company setting their own annual targets and carrying out activities accordingly.

Activities	Priority Environmental Preservation Activity Targets for Fiscal 2006	Performance in Fiscal 2006	Rating	Priority Environmental Preservation Activity Targets for Fiscal 2007
Waste reduction activities	20% reduction in the volume of outsourced waste disposal compared with fiscal 2004 level	59% reduction	O	30% reduction in the volume of outsourced waste disposal compared with fiscal 2004 level
Zero emission activities	20% reduction in direct landfill disposal compared with fiscal 2004 level	65% reduction	O	30% reduction in direct landfill disposal compared with fiscal 2004 level
Activities to prevent global warming	22% reduction in greenhouse gas emissions compared with fiscal 2000 level	17% reduction	\bigtriangleup	23% reduction in greenhouse gas emissions compared with fiscal 2000 level
Chemical substance management activities	12% reduction in emissions of volatile organic compounds compared with fiscal 2004 level	18% reduction	Ô	18% reduction in emissions of volatile organic compounds compared with fiscal 2004 level
Croop activities	100% procurement rate for 50 general purpose items	97%	\bigtriangleup	100% procurement rate for green products) (general purpose items)
Green activities	Establishment of the FGM system* at all plants subject to the RoHS Directive	System established	0	Establishment of the FGM system at major supply chain operators
Eco-design activities	Increase sales percentage of environmentally friendly products amongst new products to 100%	67%	\bigtriangleup	 Sales of environmentally friendly products amongst new products 100% Examining environmental performance indices

Furukawa Electric Annual Targets and Performance for Fiscal 2006

Evaluation ratings:

 \odot Easily achieved; \bigcirc Achieved; \triangle Almost achieved; \times Unachieved

*The FGM system is a mechanism designed to manage the content of regulated hazardous substances in Furukawa Electric products.

Furukawa Electric Consolidated Environmental Management Medium-Term Targets

	L	
Activities	Furukawa Electric 2009 Medium-Term Plan for Environmental Preservation Activities	2009 Consolidated Environmental Management Common Activity Targets
Waste reduction activities	50% reduction in the volume of outsourced waste disposal compared with fiscal 2004 level	50% reduction in the volume of outsourced waste disposal compared with fiscal 2004 level
Zero emission activities	50% reduction in direct landfill disposal compared with fiscal 2004 level	50% reduction in direct landfill disposal compared with fiscal 2004 level
Activities to prevent global warming	25% reduction in greenhouse gas emissions compared with fiscal 2000 level	10% reduction in greenhouse gas emissions compared with fiscal 2000 level
Chemical substance	30% reduction in emissions of volatile organic compounds	30% reduction in emissions of volatile organic compounds compared with fiscal 2004 level
management activities	compared with fiscal 2004 level	Eliminating the use of chlorinated organic compounds by fiscal 2008
Croop activities	Expansion of the range of products subject to green procurement (general purpose items) and introduction into Furukawa Electric Group	100% procurement rate for items subject to green procurement (general purpose items)
Green activities	Promotion and improvement of green product management • Establishment of the FGM system at supply chain operators by the end of 2007 for full-scale operation by the end of fiscal 2008	Promotion and improvement of green product management \circ Establishment of the FGM system at supply chain operators by the end of 2007 for full-scale operation by the end of fiscal 2008
Eco-design activities	Promotion of improved environmental performance of products Increased percentage of environmentally friendly products amongst new products Introduction of environmental performance indices 	Promotion of improved environmental performance of products o Increase sales percentage of environmentally friendly products amongst new products to 100%

Environmental Management System

Environmental Management Organization

We at Furukawa Electric promote environmental preservation activities on a companywide basis via our Central Committee for Environmental Management, which is chaired by the Chief Social Responsibility Officer (CSRO). We also promote Group environmental activities in conjunction with our affiliated companies via the Liaison Meeting for Consolidated Environmental Management. All of Furukawa Electric's business bases and consolidated environmental companies have been granted ISO 14001 certification.



The Furukawa Electric Group runs a variety of educational initiatives designed to raise levels of environmental awareness amongst our employees.

ISO 14001 Related Education

We organized two Internal Environmental Auditor Training Seminars led by company instructors in fiscal 2006, with participants including members of staff from affiliated companies. This year, we trained a total of 49 internal auditors through such seminars. We also organized internal auditor refresher seminars aimed at our affiliated companies.



Internal Environmental Auditor Training Seminar

Environment-Related Education

We organized education sessions on environmental issues in general for a total of 91 new employees and second-year employees this year. We also conducted educational activities on an ongoing basis at each of our works and workplaces to coincide with employees being assigned to new divisions, including both general environmental education sessions and special education sessions geared towards specific duties.



Group training for new employees

Initiatives Based on Positive Environmental Impacts

In addition to negative environmental impact, ISO 14001 also covers impacts that have beneficial effects on the environment (positive environmental impacts). As well as our ongoing efforts to

prevent pollution, we at the Furukawa Electric Group continue to get involved in proactive activities designed to have a positive impact on the environment. For instance, we are currently working on

improving the linear speed of coil manufacturing, increasing usage of lead-free soldering and developing environmentally friendly electric wire.

Environmental Risk Management

Soil and Groundwater Pollution Counter-Measures

In recognition of the fact that soil and groundwater pollution is an important issue for the health and safety of local residents and employees, the Furukawa Electric Group actively engages in related risk management activities.

In addition to taking action promptly as soon as investigations detect soil or groundwater pollution, we make every effort to secure the health and safety of all residents living in the local area. We automatically report the status of any pollution and details of measures to prevent the spread of pollution to the local authorities and release relevant information to local residents, related organizations, the media and any other concerned parties as necessary.

In an effort to prevent any negative impact on the local environment as a result of soil or groundwater pollution, we implement a range of pollution risk avoidance initiatives on an ongoing basis, including conducting regular inspections to check for leakages of specific harmful substances, taking steps to prevent leakages and promoting the use of alternative substances.

During the period to fiscal 2005, we completed a review of records of specific harmful substances used at our works and affiliated companies and conducted risk assessments to evaluate the risk of soil and groundwater pollution at our works. Based on the findings, in fiscal 2006 we voluntarily carried out studies into the status of soil pollution in high-risk areas.

We have conducted soil pollution studies and implemented cleanup measures at a total of nine company-owned offsite locations of our Nikko Works since fiscal 2003. Of these, we had completed improvement work at eight locations by the end of fiscal 2006. Work at the remaining location was completed on June 2007.





Before

After

Environmental Risk Management

PCB Management

The quantity of instruments containing PCB is monitored at each of our works so that storage and management operations can be carried out appropriately. In line with the start of processing operations by the likes of the Japan Environmental Safety Corporation, we intend to continue to commission processing on an ongoing basis.

Quantity of PCB Stored

V	/orks	In storage	In use	Total
Chiha Warks	(Already processed)	88	0	88
CHIDA WORKS	(Unprocessed)	11	0	11
Nikko Works		324	30	354
Hiratsuka Works		47	11	58
Mie Works		126	0	126
Osaka Works		66	0	66
Yokohama Work	5	9	0	9
Т	otal	671	41	712

Addressing Asbestos Issues

Use of Asbestos in Products

Although we do not currently manufacture or import products containing asbestos, we have manufactured and sold such products for industrial use in the past. Relevant products include electric wires for use on ships and fire prevention products for use in construction to install electric wires for telecommunication and electricity. Details relating to these products are featured on our website.

Use of Asbestos in Buildings and Plant Facilities

(1) Buildings

We have discovered asbestos spray materials in company-owned buildings and plants. Although investigations into the extent of dispersal have confirmed that the asbestos is stable, we decided to remove it anyway to safeguard against the risk of dispersal in the future. Removal work was completed during fiscal 2006.

(2) Facilities and equipment

We have replaced all asbestos in cases whereby viable alternatives are available. In cases where asbestos is embedded within insulation and other such materials and therefore not dispersed, we plan to replace them with alternative materials that do not contain asbestos at a later date, to coincide with scheduled inspections.

Unit: instruments

Compliance with Environmental Laws and Regulations and Other Compliance Requirements

We check environmental laws and regulations and any other compliance requirements on a regular basis and make every effort to ensure compliance, including patrolling our sites to confirm that measures are being properly implemented.

We monitor the latest information via

the Official Gazette and other sources to keep track of revisions to environmental laws and regulations and ensure that we have taken all possible measures.

Business Activities and their Environmental Impact

In the process of providing Furukawa Electric products, we purchase a variety of components and raw materials, consume water, electric power and other forms of energy and use chemical substances. We continue to work on reducing the adverse impact that these activities have on the environment.



Environmental Impact of our Non-production Bases

We have identified the environmental impact of activities at our non-production bases, namely Furukawa Electric's Head Office and three Branch Offices.

	Amount of electric power consumed	•	956,843 kWh (362 t - CO ₂)
	Amount of water used	•	256 t
	Amount of paper used		
	Photocopier paper		21,603 kg
	Newspaper		3,653 kg
	Cardboard	•	1 kg

We promote power and resource saving measures at our Head Office and Branch Offices, the company's non-production bases.

Examples of such power saving measures include turning off lighting in conference rooms not in use and adjusting air conditioning to appropriate temperatures. In terms of resource saving measures, we promote activities such as sorting waste and reusing resources such as photocopier paper and files.

Environmental Accounting

In an effort to quantitatively assess our environmental costs and benefits, we have compiled tables outlining our "environmental conservation cost," "economic benefit associated with environmental conservation activities" and the "environmental conservation benefit (material benefit)." All data has been compiled in accordance with environmental accounting guidelines published by the Ministry of the Environment. Data on affiliated companies was collected for a total of 22 companies.

Furukawa Electric's environmental conservation costs for fiscal 2006 came to 5.1 billion yen in expenses and 200 million yen in investment. Expenses fell by 70 million yen compared to the previous year (fiscal 2005). Overall economic benefits remained at 40 million yen, due in part to increased energy costs.

Environmental conservation costs for our affiliated companies came to 3.3 billion yen in expenses and 1.9 billion yen in investment. Overall economic benefits rose by approximately 300 million yen due to increased energy costs.

Unit: million yen

Unit: million yen

Affiliated

Environmental Conservation Costs

Environmental Conservation	Costs			Unit: million yen
Category	Key activity and the outcome	Furukaw	a Electric	Affiliated companies
		Total costs	Year-on-year	Total costs
(1) Business area cost	Pollution prevention (air pollution, etc.), energy conservation, waste disposal, etc.	1,515	114	2,220
(2) Upstream/downstream cost	Recovery of packaging, drums, etc.	667	156	209
(3) Administration cost	Environmental management system auditing, environmental impact monitoring, etc.	428	25	214
(4) Research and development cost	Development of environmentally friendly products, research into alternatives for harmful substances	1,184	82	557
(5) Social activity cost	Tree planting, local community cleaning activities, donations, etc.	4	-86	5
(6) Environmental remediation cost	Environmental impact assessments, cleanup of polluted soil, etc.	1,260	-358	58
	Total	5,058	-67	3,262

Year-on-year figures have not been calculated for affiliated companies due to differences in the companies covered compared to last year.

Environmental Conservation Benefit

Emissions causing environmental impact	Unit	Furukawa Electric	Affiliated companies	
		Reduction	Reduction	
Waste disposal*	t	667	310	
Energy consumption (crude oil equivalent)	1,000 kl	-8	14	
Water consumption	1,000 t	-1,722	-764	
Emissions of volatile organic chemical compounds	t	74	1	
CO ₂ emissions	1,000 t - CO2	-16	8	
SOx emissions	t	-9	82	
NOx emissions	t	-11	-160	
Soot emissions	t	-1	58	
* Excludes recycled waste		Minus figure	es indicate an increase	

Economic Benefit Associated with **Environmental Conservation Activities** Dotails of bonofits Eurukawa

becans of benefics	i aranarra	/
	Electric	companies
	Total benefit	Total benefit
Revenue from recycling	448	740
Reduction in waste disposal costs	-13	-13
Reduction in energy costs	-393	-1,024
Reduction in water purchase costs	-1	17
Total	41	-280
	Minus figu	res indicate an increase

Investment and Research Costs

		/
Investment and research costs	Furukawa	Affiliated
	Electric	companies
	Total costs	Total costs
Environment-related investment	186	1,850
Total investment	11,900	22,511
Total research costs	9,969	5,299

* Excludes recycled waste

Environmental Conservation Costs (100 million yen)





Economic Benefit

(100 million yen)

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Producing Environmentally Friendly Products

In order to produce environmentally friendly products, we at Furukawa Electric undertake measures such as purchasing items via green procurement, green product management and environmentally friendly product development.

Green Product Activities

Green Product Management Activities

Having set up a Committee for Green Product Management in 2005, we are currently working on the establishment of a management system to control chemical substances contained in our products, whilst also furthering the sharing of information between business divisions.

In an effort to prevent any infringements upon environmental regulations in relation to chemical substances, we studied the content of regulated harmful substances in every one of our Furukawa Electric brand products in fiscal 2005 and compiled a "Registration Master for all Green Products and Plants."

In fiscal 2006, we decided to proceed

with measures based on the aforementioned master in phases, starting with plant divisions responsible for producing high-priority regulated products. In view of requirements regarding the management of chemical substances contained in products issued by the Japan Green Procurement Survey Standardization Initiative (JGPSSI) and requests from major customers, we compiled a new system configuration check sheet (FGM Self-check Sheet), conducted voluntary inspections unique to Furukawa Electric, ran management system inspections and rectified any issues. We have now completed the establishment of a management system spanning four in-house companies and 12 manufacturing divisions. On other fronts, we have undergone and performed well in supplier audits conducted by two of our major customers and have started work on the establishment of management systems at our affiliated companies as well.

In addition to all this, we have organized Auditor Training Seminars led by company instructors and outside specialists to improve auditors' understanding of how to manage chemical substances contained in products. As a result we have trained at least two auditors in each business division and at least one at each affiliated company.

Green Product Activities at our Telecommunications Company

With its wide range of products, including optical fibers, optical and communication cables, optical connectors, wiring for electric and electronic equipment, optical components, fiber optic amplifiers, laser modules, optical system products, network equipment and fusion splicers, the market covered by Furukawa Electric's Telecommunications Company stretches all the way around the world. Such a wide array of products results in an equally wide variety of requests from customers regarding the management of chemical substances contained in products. On the whole, our Telecommunications Company is working on establishing a management structure from the following perspectives.

(1) We are compiling a set of green product management regulations that can be applied to each individual product category and are working on standard system requirements for each product category, with the relevant regulations set as the upper standard.

- (2) We have continued to devise mechanisms to retrieve data and promote record management to enable us to respond quickly to inquiries from our customers regarding the six substances listed under the RoHS Directive, the 24 JIG substances and other chemical substances contained in our products.
- (3) We have installed X-ray fluorescence spectrometers and are using them on externally purchased items.



We are also working on the development and launch of the following new products designed to contribute to the environment.

- (1) Easy-recycle optical cables are optical cables that can be recycled efficiently once recovered. By carrying out reviews right from the design stages, we have successfully developed and launched products whose structure can be easily separated, thereby making it possible to recycle a large number of their composite components.
- (2) We are already 100% compliant with the RoHS Directive in the field of equipment wiring. We have launched and are currently focusing on the promotion of Eco-Wire, which is free from halogen as well as the six substances under the RoHS Directive. Eco-Wire sales in fiscal 2006 accounted for approximately 30% of our overall equipment wiring sales.

Producing Environmentally Friendly Products

Eco-Design Activities

Environmentally Friendly Products

At Furukawa Electric, we use the term "environmentally friendly products" to refer to products that are harmless at every stage of the process from production and distribution through to usage and disposal and that have a minimal impact on the environment. We even have

Environmentally Friendly Product Development

In an effort to combat the various effects of global warming on society in recent years, the development of environmentally friendly products is becoming an increasingly urgent issue. Although environmentally friendly products obviously need to have minimal impact on the environment, they also need to offer benefits to the people who use them, in terms of areas such as price, performance, safety and reliability, if they are to take them on board. Similarly, unless products find widespread application, it is impossible for companies to generate cost benefits. We therefore focus on activities designed to get people to our own unique environmental labeling system for such products. Our environmentally friendly product percentage, namely the percentage of total sales of new product accounted for by environmentally friendly products, came to 67% in fiscal 2006.

select and use our environmentally friendly products as much as, if not more than, technical development itself.

Based on the notion that it is important first and foremost for us to select and use our products ourselves, we introduce products under development into our own works in an effort to show our customers the effects and benefits that they offer and give them a real feel for our products.

The heat island effect in urban areas is a particularly tricky issue, plagued by a vicious circle whereby using air conditioning as a solution results in the consumption of even more energy, thereby driving



* Further details of our environmentally friendly products are available at the following address on the Furukawa Electric website. http://www.furukawa.co.jp/enviro/pro/index.htm

the temperature up even higher.

To combat the heat island effect, we have developed a system that, rather than consuming additional energy, stores naturally occurring rainwater and uses the process of evaporation to generate a cooling effect. We have also launched a project to install the relevant system at our works to verify its effectiveness. We hope to give everyone the chance to experience the effects of this system in 2007.

We intend to continue to actively develop environmentally friendly products that enable us to really feel the effects and benefits first hand.



We aim to develop products in line with our customers' needs

Hideto Nakamura Eco-Products Department, Ecology & Energy Laboratory, R&D Division

No matter how environmentally friendly a product is, people will only take it on board if they think that the benefits it offers balance out the cost.

I worked on the development of Hydrostaff, a plastic underground storage and permeation tank that offers outstanding performance as well as the advantage of quicker installation compared to conventional concrete storage tanks.

With a plastic storage tank consisting of a block-shaped structure, you always face the issue of how to remove sand that flows into the tank along with rainwater and forms as sediment inside the tank. We have resolved this issue however by also developing a Sediment Control System, which can really be a great help to our customers from the point of view of maintenance.

We will continue to make every effort to develop products that offer as many benefits as possible in line with our customers' needs in the future.

Hydrostaff

Made from a combination of polypropylene resin-based units and sheeting, the Hydrostaff system stores rainwater underground or allows it to permeate as part of the creation of rainwater usage or rainwater runoff-prevention facilities.

Its features include easy assembly, a reduced construction period and outstanding water storage efficiency, with a storage rate of at least 95%.



Sediment Control System

Consisting of a partitioned unit and a series of manholes for inspection or cleaning purposes, the Sediment Control System significantly reduces the diffusion and accumulation of sand inside water tanks. The inspection holes enable a person to get inside and clean up sand that has formed into sediment, mak-

ing maintenance easy and enabling tanks to maintain their storage volumes over a longer period of time.



Easily Dismantled Recyclable Optical Fiber Cables

With conventional optical fiber cables, it takes effort to separate binder tape from the optical fibers when dismantling cables. There are also issues with the binder tape becoming contaminated with impurities in the form of cable sheaths, making the process of dismantling and separating cables a costly one. In conjunction with Tokyo Electric Power Company, we at Furukawa Electric are addressing the issue of recycling optical fiber cables and have developed easily dismantled recyclable optical fiber cables that can reduce the cost of dismantling and separating cables.

This product's features include the following.

(1) By using polyethylene tape for the binder tape, the sheath and the binder tape melt together during sheathing as part of the manufacturing process and become integrated with one another. Consequently, when the sheath is removed, the cable can be dismantled as if there wasn't any binder tape. This makes it possible to significantly reduce the time taken to dismantle cables.

- (2) As the binder tape is made from polyethylene, the same material as the sheath, there are no impurities even if the two are mixed together.
- (3) Making it easier to dismantle cables also makes it easier to remove the sheath and take out the optical fibers inside when installing or connecting optical fiber cables.

As the introduction of cables such as these can cut dismantling and separation costs by 50%, it is possible to dismantle and separate cables for the same cost as industrial waste disposal via landfill sites or incineration.

The Structure of an Optical Fiber Cable



* denotes components made from recyclable materials.

A Dismantled Cable



Fire Retardant Cable Sheets

PROTECO Sheet P2-eco and PROTECO Sheet P2DX-eco

Fire retardant cable sheets are highly flame resistant sheets that are wrapped around power or communication cables inside a cable tunnel or on a cable rack, either directly or on top of the rack, to prevent fire from spreading.

Until now, fire retardant sheets have tended to be made from halogen-based fire retardant materials to give them their highly fire retardant properties. Through F-CO and Furukawa Techno Material however, we have managed to achieve an oxygen index of 50 and limit the volume

of hydrogen halide generated upon combustion to a mere 1mg/g via highly fire retardant technology using halogen-free resin, rubber and fire retardant. We have also managed to minimize smoke emission, keeping it down to one quarter of conventional levels (based on our findings). By maintaining outstanding levels of fire retardant performance (including passing IEEE Std. 383-compliant vertical tray combustion testing), eliminating halogen and minimizing smoke, we have achieved a substantial reduction in environmental impact compared to conventional fire retardant sheets.

Our sheets also offer superior mildew resistance, making them ideally suited to locations susceptible to mildew inside cable tunnels.

In recent years, our sheets have come into wide use in cable tunnels at substations, various different plants, airports, railway facilities, power companies and a range of other locations.



Cables wrapped in PROTECO Sheet P2-eco

Cable racks wrapped in **PROTECO** Sheet P2-eco



PROTECO Sheet P2-eco (power cables) Thermal Expansion Liner PROTECO Sheet T (communication cables) PROTECO Sheet P2DX-eco (power cables)



Producing Environmentally Friendly Products

Recycled Insulated OC Wire

Of all the sheathing materials used in electric wiring and cables, cross-linked polyethylene cannot be heated up and melted. This has always posed problems in terms of material recycling, resulting in cross-linked polyethylene being almost entirely recycled into fuel via thermal recycling. However, Furukawa Electric has developed unique material recycling technology capable of recycling cross-linked polyethylene via thermoplastic processing. In conjunction with Tokyo Electric Power Company and VISCAS Corporation, we have successfully developed technology that enables waste sheathing materials from used outdoor cross-linked polyethylene insulated wire (OC wire) to be reused as new sheathing material for OC wire and have released recycled insulated OC wire as a commercial product.

Our recycled insulated OC wires contain approximately 25% recycled thermoplastic-processed waste sheathing material, making this the world's first case of cross-linked polyethylene being recycled for the same purpose via material recycling.



Green Procurement

Office Supplies and Other General Purpose Items

We promote the purchase of green products via our purchasing division by registering such products exclusively on our purchasing system. We stepped up our activities even further in fiscal 2006, increasing the total number of products covered by 27, taking last year's total of 23 up to 50. The term "green products" refers to products recommended by the Green Purchasing Network and products bearing environmental labels. As a result of our efforts, we managed to achieve a procurement rate of 97% by the end of fiscal 2006. Our affiliated company Furukawa-Sky is also implementing similar activities and has reached a procurement rate almost on par with ourselves. In addition to increasing the number of products covered in the future, we also intend to get more of our affiliated companies to engage in green procurement.

Products and Manufacturing Process Components

We verify the status of products and materials purchased for manufacturing processes through measures such as conducting individual interviews and investigations, covering areas such as our suppliers' environmental management systems and levels of environmentally regulated substances contained in their products, and ordering MSDS and other documents.



Environmentally Friendly Products

Products that help prevent global warming

We are working on the development and commercialization of products designed to help save energy, such as lightweight products or products with improved energy efficiency, and products and systems that use clean energy.

- Microcellular reflective sheet (MCPET)
- Rainwater storage and permeation systems (Hydrostaff)
- High-performance corrugated fins
- High-performance heat exchange
- materials

- Advanced, stable performance
- extruded aluminum materials • Aluminum alloys to enable lightweight
- vehicle development
- Applied micro heat pipe products





Automobile panels

MCPET

Products free from substances that cause environmental impact

We are working on the development and commercialization of products that do not cause any environmental issues when used or produce harmful substances when incinerated or sent to a landfill site after use and biodegradable products that do not leave behind any waste products.

- Eco-wires for electronic and electric equipment (ECOACE plus, ECOBEAMEX)
- Fire retardant insulated copper sheath piping (THERMO-IN BIRUMEITO Tube)
- High-performance copper alloys for connectors (beryllium-alternative copper alloys)
- Protective indoor wire tubing made from fire retardant resin (ECOPLAFLEKY)
- Lead-free plated components for electronic equipment



ECOBEAMEX



Products that help create a recycling-oriented society

We are working on the development and commercialization of recycling-oriented products, including products made from reused waste products, products made from recyclable materials, products made from fewer materials or containing fewer components and easily degradable products.

- Underground cable ducts (KOTA-KUN, KOICHI-KUN)
- Biodegradable thermoplastic form (BIOACE)
- Synthetic resin troughs (Green Trough)
- Recycled aluminum cans
 Weed barrier sheets
- Watering hoses





KOTA-KUN

Products that help protect the ozone layer

We are working on the development and commercialization of apparatus and processes that do not use chlorofluorocarbons (CFCs), one of the main substances harmful to the ozone layer, and products compatible with CFC alternatives.

- CFC alternative-compatible magnet wires (HPWR II)
- High-performance resin sheathing aluminum sheets (FUSCOAT)

• CFC alternative-compatible copper piping (FMGT)





Zero Emission Activities

The Furukawa Electric Group has been involved in efforts to reduce levels of outsourced waste disposal ever since 1993. We have also continued to promote zero emission activities, which we define as "activities designed to reduce outsourced industrial waste disposal whereby waste is transported directly from our works to landfill sites for permanent disposal," since 2001. This year, we have been promoting efforts to improve waste sorting and to recycle waste acid and sludge. The overall level of outsourced waste disposal for the Group as a whole fell by 28% compared with fiscal 2004 level to 10,600 tons. Furukawa Electric achieved an equivalent reduction of 59% and our affiliated companies a reduction of 18% (both compared with fiscal 2004 level levels).

Reducing Waste Disposal Costs ---

We at Furukawa Electric are also working towards targets for the reduction of waste disposal costs. Spending on landfill and intermediate disposal in fiscal 2001 totaled more than 300 million ven. In addition to reducing levels of waste through initiatives such as promoting reuse and eliminating waste along our production lines, we have continued to implement measures such as carefully sorting waste to generate value since then, making it possible to sell our waste products for profit. In addition to the effects of activities such as these, soaring scrap copper prices following on from the previous year have enabled us to achieve a profit of approximately 250 million yen.

Waste Disposal Costs



The overall level of direct landfill disposal for the Group as a whole also fell by 28% compared with fiscal 2004 level to 3,322 tons. Furukawa Electric achieved an equivalent reduction of 65% and our affiliated companies



Reducing Landfill Waste

As we have a wide range of manufacturing plants at our Hiratsuka Works, covering everything from construction materials to optical communication equipment and electrical and electronic products and materials, our operations generate an equally wide range of waste products. With this in mind, we decided to use our accreditation under ISO 14001 in 2000 as an opportunity to launch full-scale waste reduction activities.

As part of our waste reduction activities, we have been focusing on carefully sorting waste based on a philosophy of cutting overheads wherever possible. Specific measures such as stepping up waste

Waste Generated (Hiratsuka Works)



a reduction of 24% (both compared with fiscal 2004 level levels). At Furukawa Electric's Chiba and Hiratsuka Works, we have reduced the rate of landfill disposal to no more than 1% of total emissions.

Direct Landfill Disposal



sorting education, conducting waste and emissions checks at strategic waste collection points and recycling landfill waste have consistently produced results year after year. As such results tend to motivate employees to try and make further reductions, we have made rapid progress with improvement measures.

Having previously reduced levels of landfill waste from around 55 tons per month in fiscal 2000 to 10 tons per month by fiscal 2004, we have now cut landfill waste to a mere 1.1 tons per month. Equivalent to 0.3% of our total emissions, this signifies that we have successfully achieved our zero emissions target.

Rate of Recycling (Hiratsuka Works)



Efforts to Prevent Global Warming

The Furukawa Electric Group has continued to engage in activities designed to help prevent global warming in conjunction with our energy conservation initiatives. We are implementing a wide range of measures at our plants, including installing a range of energy conservation equipment such as cooling water pumps and inverter cooling fans, running equipment efficiently (consolidating and cutting back on compressors, etc.), reusing hot air from exhaust fumes and fuel conversion. At our offices meanwhile, we are implementing measures such as turning off unnecessary lighting and adjusting air conditioning temperature settings as appropriate.

Our total greenhouse gas emissions for the Group as a whole came to 960,000 tons CO₂ in fiscal 2006, a reduction of 6% compared to levels in fiscal 2000. Furukawa Electric achieved an equivalent reduction of 17% and our affiliated companies a reduction of 3% (both compared with fiscal 2000 level levels).

 For the purposes of this report, greenhouse gas emissions are calculated based on uniform round-theclock CO₂ equivalents.

Greenhouse Gas Emissions



Installing NAS Batteries



Installed NAS batteries

Logistics-Related Initiatives

In accordance with newly introduced regulations governing shippers under the Revised Energy Conservation Law, we have been working on monitoring ton-kilometer data, including for our affiliated companies. Furukawa Electric recorded a total of 148 million ton-kilometers in fiscal 2006. The only other Group companies recording 30 million ton-kilometers or more were Furukawa-Sky (220 million ton-kilometers) and The Furukawa Battery (46 million ton-kilome-

Example of Energy conservation Activities on the Shop Floor

At our Mie Works, we have fitted insulating jackets to molding machine heating cylinders in an effort to save energy in the form of electricity used for heating. Whilst upgrading kerosene oil boilers at our Nikko Works, we took the opportuniWe have installed NAS batteries at our Hiratsuka Works in an effort to make effective use of nighttime power, which uses a lower percentage of fossil fuels, thereby enabling us to help prevent global warming. Whereas our Hiratsuka Works and affiliated companies in the nearby area used to receive power from separate sources, the installation of NAS batteries has enabled us to standardize power sources and share the benefits with our affiliated companies as well.

ters). The overall total for the Furukawa Electric Group as a whole came to 504 million ton-kilometers. In an effort to cut back on energy used on transportation, we are working with Furukawa Logistics to implement measures such as promoting modal shift, increasing loading rates and making joint deliveries.

Furukawa Logistics asks the truck haulage operators it deals with to obtain Green Management Certification and has continued to provide the necessary support to enable us to remain an environmentally friendly logistics company, through measures such as reducing fuel consumption. Over the course of fiscal 2006, Furukawa Logistics' major haulage operators have more or less completed the Green Management Certification process. To cut CO₂ emissions, there are plans for fiscal 2007 to get individual haulage operators to work together to ascertain fuel consumption for major routes.

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ty to install new LPG fuel boilers capable of reducing CO₂ emissions, enabling us to achieve an annual reduction of approximately 600 tons (estimated CO₂ equivalent).



An insulating jacket on a molding machine

Chemical Substance Management

The Furukawa Electric Group promotes efforts to reduce the use of harmful chemical substances. In particular, we make every effort to actively reduce emissions of volatile organic compounds, which are regarded as one of

the causes of photochemical smog. Furukawa Electric's emissions have fallen 18% compared with levels in fiscal 2004, with organic chlorine compounds now only used by six of our affiliated companies.



Appropriate Management of Chemical Substances

We check the properties of and laws and regulations applicable to all chemical substances that we use as part of the manufacturing process against Material Safety Data Sheets (MSDS) and manage substances accordingly. We also monitor the volumes of each substance used and report the relevant details in accordance with the PRTR Law*.

* PRTR Law: Law Concerning Reporting, etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management

olume	of	P	RT	R	S	ubsta	ances	Re	leased	and	Trans	ferr
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volume	e of PRIR Substances Released and Transferred							
Substance	Name of substance	Volume bandled	Volume released	Volume transferred	Volume neutralized			
25	Antimony and its compounds	75.6	0.0	5.4	0.0			
40	Ethylbenzene	8.3	0.0	0.0	8.3			
63	Xylene	24.3	8.2	3.2	10.9			
64	Silver and its water-soluble compounds	2.5	0.0	0.0	0.0			
67	Cresol	275.1	0.7	0.0	273.9			
108	Inorganic cyanide compounds	22.4	0.0	0.0	22.4			
172	N, N-dimethylformamide	78.8	0.3	0.0	77.8			
197	Decabromodiphenyl ether	227.2	0.0	16.4	0.0			
207	Copper salts (water-soluble)	15.2	0.0	0.0	15.2			
227	Toluene	509.0	170.7	232.7	103.4			
230	Lead and its compounds	2.2	0.0	0.0	0.0			
231	Nickel	3.6	0.0	0.0	0.0			
232	Nickel compounds	9.6	0.0	0.0	9.6			
253	Hydrazine	7.7	0.0	0.0	7.7			
266	Phenol	175.9	0.3	0.0	175.2			
272	Bis (2-ethylhexyl) phthalate	2.9	0.2	0.2	0.0			
283	Hydrogen fluoride and its water-soluble salts	2.2	0.0	1.2	0.0			

* Applicable to substances that are handled in volumes of one ton or more at Furukawa Electric works (or 0.5 tons or more in the case of

specific first category chemical substances)

Reducing Emissions of Volatile Organic Compounds

Emissions of volatile organic compounds (VOC) became subject to emissions regulations in April 2006 with the enactment of the Revised Air Pollution Control Law. Although Furukawa Electric does not currently own any facilities that

Example of Chemical Substance Reduction Activities

At our Mie Works, we are working on reducing VOC through QC Circle activities. As part of the optical fiber manufacturing process, large quantities of fluid consisting mainly of ethyl alcohol are used to clean jigs. The QC Circle for the relevant department set out to achieve a reduction in the volume of fluid used. Although cleaning fluid was already recovered and reused repeatedly, the recovery rate was just 36%,

fall under the relevant regulations, we are voluntarily working to reduce emissions anyway. The main types of VOC handled by Furukawa Electric are toluene and isopropyl alcohol (IPA). We are looking into switching to an alternative to toluene, which we use to clean copper strips, and upgrading our facilities to do so. We are also examining the possibility of installing equipment to recover evaporated IPA, which is used to reduce copper wire as it comes out of the melting furnaces.

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meaning that the remaining 64% was released into the atmosphere. The members of the QC Circle closely monitored how the fluid was used, identified points where it was being released and came up with solutions. Their solutions included changing the recovery method used so that fluid comes out of the bottom of cleaning tanks rather than being pumped out from the top, raising awareness to ensure that all team members check lids frequently and modifying the equipment itself by fitting covers to enable released alcohol to be recovered in the cleaning tanks. As a result, the recovery rate has improved from 36% to 80%, thereby cutting atmospheric emissions considerably. The QC Circle's efforts have also helped cut costs by enabling a reduction in the volume of fluid purchased.

Environmental Preservation Data

Of the works operated by Furukawa Electric, we collect air and wastewater quality data at the four works that are registered as specialized plants.

Chiba Works

Atmospheric Indicators

ltem	Unit	Facilities	Legal standard	Self-imposed standard	Average	Maximum
NOx	(ppm)	Melting furnace	180	180	30	51
Soot	(g/Nm ³)	Melting furnace	0.1	0.1	0.027	0.048

Wastewater Quality Indicators

Item measured	Unit	Legal standard	Self-imposed standard	Average	Maximum
pН		5.0 to 9.0	5.5 to 8.5	7.9	8.4
COD	(mg/l)	15	10	3.2	11.3
SS	(mg/l)	20	10	3.9	9.5
n-h (mineral oil)	(mg/l)	2	1	0.3	1.2

Nikko Works

Atmospheric Indicators

ltem	Unit	Facilities	Legal standard	Self-imposed standard	Average	Maximum
		Boiler	180	180	81	89
NOx	(ppm)	Melting furnace	200	200	27	28
		Dryer furnace	300	250	45	52
	(K value)	Boiler	17.5	17.5	0.47	0.55
SOx		Melting furnace	17.5	17.5	0.37	0.42
		Dryer furnace	17.5	17.5	0.13	0.14
		Boiler	0.3	0.3	0.00	0.00
Soot	(g/Nm ³)	Melting furnace	0.2	0.2	0.03	0.03
		Dryer furnace	0.5	0.2	0.00	0.00

Wastewater Quality Indicators

Item measured	Unit	Legal standard	Self-imposed standard	Average	Maximum
рН		5.8 to 8.6	6.0 to 8.5	7.3	7.5
BOD	(mg/l)	25	16	3.2	4.4
SS	(mg/l)	50	20	1.2	2.8
n-h (mineral oil)	(mg/l)	5	0.5	0.2	0.2

Mie Works

Atmospheric Indicators

Item	Unit	Facilities	Legal standard	Self-imposed standard	Average	Maximum
NO	(ppm)	Boiler	180	140	64	65
NUX		Melting furnace	180	140	43	49
SOx	(Nm³/Hr)	Boiler	0.6	0.5	0.00	0.00
		Melting furnace	41.6	33.3	0.13	0.13
Soot	(g/Nm³)	Boiler	0.3	0.24	0.005	0.005
		Melting furnace	0.3	0.24	0.057	0.077

Osaka Works

Atmospheric Indicators

Item	Unit	Facilities	Legal standard	Self-imposed standard	Average	Maximum
		Boiler	150	120	2.0	2.0
NOx	(ppm)	Melting furnace	200	160	2.0	2.0
		Heating furnace	170	144	3.0	4.0
	(g/Nm³)	Boiler	0.1	0.08	0.001	0.001
Soot		Melting furnace	0.2	0.16	0.001	0.001
		Heating furnace	0.25	0.2	0.001	0.001

Wastewater Quality Indicators

Item measured	Unit	Legal standard	Self-imposed standard	Average	Maximum		
рН		5.8 to 8.6	6.5 to 8.5	7.8	8.0		
BOD	(mg/l)	10	4	1.5	5.0		
SS	(mg/l)	25	6	1.1	2.1		
n-h (mineral oil)	(mg/l)	1	0.7	0.10	0.10		

Wastewater Quality Indicators

Item measured	Unit	Legal standard	Self-imposed standard	Average	Maximum
рН		5.7 to 8.7	5.7 to 8.7	7.7	8.2
BOD	(mg/l)	300	10	5.7	10.0
SS	(mg/l)	300	50	11.8	25.0
n-h (mineral oil)	(mg/l)	5	2	1.3	2.9