

Initiatives for the Environment

The Furukawa Electric Group is striving to reduce its environmental impact throughout the product lifecycle.

Special Feature 1

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List of companies participating in the liaison meeting for consolidated environmental management (Fiscal 2011)

Access Cable Company
Asahi Electric Works Co., Ltd.
Inoue Manufacturing Co., Ltd.
NTEC Ltd.
FCM Co., Ltd.
Okano Electric Wire Co., Ltd.
Okumura Metals Co., Ltd.
Kyowa Electric Wire Co., Ltd.
Furukawa Electric Ecotec Co., Ltd.
Shodensha Co., Ltd.
Seiwa Giken Inc.
Totoku Electric Co., Ltd.
FITEC Corporation
Furukawa Automotive Systems Inc.
Furukawa Sangyo Kaisha Ltd.
Furukawa C&B Co., Ltd.
Furukawa Industrial Plastics Co., Ltd.
Furukawa-Sky Aluminum Corporation
Furukawa Precision Engineering Co., Ltd.
Furukawa Techno Material Co., Ltd.
Furukawa Electric Advanced Engineering Service Co., Ltd.
Furukawa Electric Industrial Cable Co., Ltd.
The Furukawa Battery Co., Ltd.
Furukawa Logistics Corporation
Furukawa Life Service Inc.
Miharu Communications Inc.
Riken Electric Wire Co., Ltd.
Furukawa Magnet Wire Co., Ltd.

Detailed data is provided in our Data Book (PDF).
<http://www.furukawa.co.jp/english/csr/report/index.htm>

Special Feature 1 Energy / Smart Grid Development

Developing Smart Grid Technology to Bring About a Low-Carbon Society

Smart grids employ IT technology to efficiently control and adapt different power sources for use in next-generation power grids and technologies. This means enabling the combination of renewable power sources, such as solar and wind, with power from sources used up to now, such as fossil fuels and nuclear, as well as with the surplus power generated through home solar power systems.

Large-scale investment in smart grid-related business began with the Green New Deal launched by the US government in 2008. There is a growing trend for large-scale projects worldwide, such as the massive DESERTEC solar power project for sending power from the Sahara to Europe, as well as major power grid investment in China conducted by the State Grid Corporation of China.

The Furukawa Electric Group brings together a wide variety of smart grid technologies, such as power transmission, superconductivity, data transmission, and power storage, which we are developing in accordance with society's needs so as to bring about a low-carbon society.

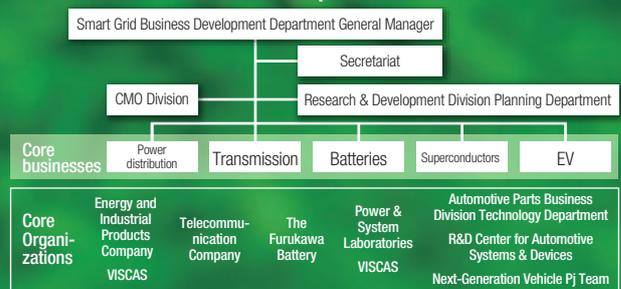
Newly-Established Smart Grid Business Development Department

The Furukawa Electric Group offers a wide variety of technologies useful in building smart grids, such as power transmission, superconductivity, data transmission, power storage, thermal management, sensor, power electronics, EV charging station, and other technologies. The various Furukawa Electric companies and laboratories, as well as our affiliates such as Asahi Electric, Inoue Manufacturing,

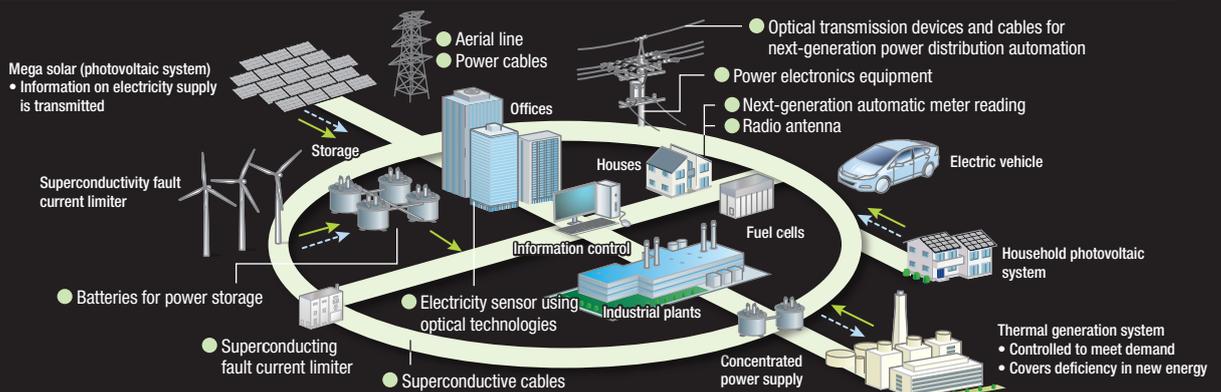
Furukawa Electric Industrial Cable, Furukawa Battery, Furukawa Power Components, and VISCAS Corporation, are engaged in developing and marketing smart grid-related equipment.

Nonetheless, in the past there was no structure for integrating and fusing the technologies dispersed among the divisions of Furukawa Electric and our affiliates. This made it impossible to fully utilize the technologies we had worked so hard to develop. Therefore, we established the Smart Grid Business Development Department, which answers directly to the President, so as to integrate the efforts of each Furukawa Electric division and our affiliates and fully exploit the potential of the Group. Henceforth, the Smart Grid Business Development Department will be at the center of our efforts to bring together our Group's technologies so as to offer comprehensive solutions and realize a low-carbon society.

Smart Grid Business Development Structure



Next-Generation Power Supply System





Smart Grid Business Development Department

When considering smart grids it is necessary to remain conscious of both the “high” and “low” perspectives. The “high” perspective means taking the point of view of humanity and the planet. I view “smart grids” as the key phrase for altering the relationship between humanity and the energy it consumes. When we consider the issues and measures for dealing with them that have arisen over mankind’s history of energy acquisition, we can forecast future trends.



Kazunori Nakamura
Corporate Senior Vice
President & Chief
Technology Officer

On the other hand, the “low” perspective means matching actual needs with our activities, so as to unearth issues that won’t be found by taking the long or bird’s-eye view. These issues can be matched up with our Group’s business by taking a flexible approach to them. I believe we should create a strategy that considers both the “current issues” and the “forecast for the future” that we discover.

Power & System Laboratories, R&D Division

The PS Labs (Power & System Laboratories) were established in 2010, and are the newest labs at Furukawa Electric. We engage in the following at the PS Labs: 1. Offer solutions using world-leading technologies such as superconductivity and storage systems; 2. “Visualize” smart grids and smart cities using fiber optic networks; 3. Contribute to realizing a low-carbon society by developing various kinds of cables and parts corresponding to resource conservation and new kinds of energy. Smart grids match up with the geopolitical environment, and are being developed in a variety of forms geared toward particular countries and regions, such as wind power, geothermal, photovoltaic, and solar heat. At the PS Labs we work every day to unearth unique technologies, taking a global perspective in offering the world systems that meet the particular needs of each country and region.



Yusei Shirasaka
General Manager,
Power & System
Laboratories,
R&D Division



Development of ultra-high voltage cables (Shenyang Furukawa Cable)



Battery development (Furukawa Battery)



Superconductive cable development (Power & System Laboratories)

Environmental Management

The Furukawa Electric Group will engage in comprehensive environmental conservation, including biodiversity preservation, as provided in the Basic Environmental Policy (revised in April 2011).

Furukawa Electric Basic Environmental Policy

Basic Philosophy

We, the employees of the Furukawa Electric Group, recognize that preservation of the global environment is a serious issue confronting the international community, and we pledge to contribute to a sustainable future for the world through technological innovation that utilizes our strength in advanced materials.

Action Guidelines

1. We shall comply with environmental laws and regulations as well as the demands of our customers and others, setting ever higher environmental targets as we continuously improve our global environmental conservation efforts.
2. We shall strive to develop products that are friendly to the Earth, and create new environmental businesses.
3. We shall strive to reduce environmental risk by incorporating anti-climate change and resource conservation/recycling considerations, as well as a reduction in the use of environmental impact-causing substances, across the entire product lifecycle.
4. We shall evaluate the ecological impact of all of our businesses, and strive for the preservation of biodiversity and sustainable use of resources.
5. We will seek harmony with the natural environment and local communities through dialogue with our stakeholders.

Environmental Management Promotion Organization

The Furukawa Electric Group has established the Central Committee for Environmental Management. The Committee, which is headed by the Chief Social Responsibility Officer (CSRO) and answers directly to the President, is convened four times annually to formulate the environmental management targets for the entire Group and follow up on their status.

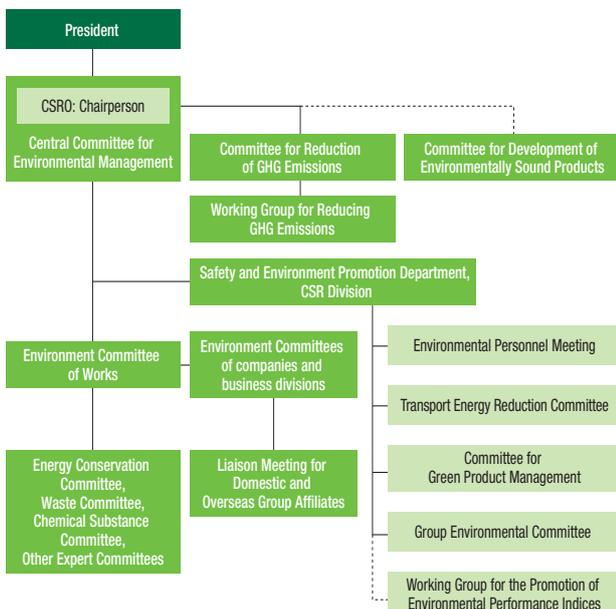
The key measure for the prevention of global warming is the reduction of CO₂ emissions. Therefore, we have established the Committee for Reduction of GHG Emissions and the Working

Group for Reducing GHG Emissions under the auspices of the Central Committee for Environmental Management. We have also created the Working Group for the Promotion of Environmental Performance Indices, which uses life-cycle assessments (LCA) to make product CO₂ emissions visible.

Also, in April 2011 we consolidated the bi-annual Liaison Meeting of Consolidated Environmental Management for affiliates and the Committee for Consolidated Environmental and Green Product Management to form the Group Environmental Committee. This Committee meets quarterly to conduct target management and share information, with the goal of integrating and strengthening activities for unifying Group targets.

Each of Furukawa Electric's seven manufacturing Works and all of our domestic affiliates that participate in consolidated environmental management are in the process of acquiring ISO14001 international environmental management certification. Our overseas affiliates are also proceeding to collect data and construct management systems under the guidance of their controlling companies and business divisions.

Environmental management promotion organization



Environmental Accounting

The Furukawa Electric Group conducts environmental accounting in conformance with the environmental accounting guidelines published by the Ministry of the Environment. The Furukawa Electric Group's overall environmental conservation costs in fiscal 2011 came to ¥2.2 billion in investment and ¥6.6 billion in expenses.

For details please visit our homepage.

 <http://www.furukawa.co.jp/english/csr/environment/accounts.htm>

Environmental Education

The Furukawa Electric Group seeks to increase employee awareness of environmental conservation through measures such as environmental education and the Environmental Awards System.

Environmental Education System and Environmental Education Programs

The Furukawa Electric Group conducts a variety of environmental training programs so as to improve the environmental awareness of employees and provide the knowledge and skills necessary to EMS activities. Our environmental education also offers the latest information about environmental regulations.

In fiscal 2011, 38 employees attended our ISO14001 Internal Environmental Auditor Course, 22 attended our FGMS* Auditor Course, and 36 participated in our EMS Upgrade Seminar.

* Furukawa branding Green products Management System

Environmental education programs

Category of educational training	Content	New recruits	General employees	Mid-career employees	Management
Education for new recruits (once a year, mandatory)	General environmental protection activities	Training for new recruits			
EMS activities (as needed, mandatory)	Environmental Policy and purpose, goals and general knowledge pertaining to the environment				
ISO14001-related education (two-day course) (twice a year, voluntary)	Requirements of ISO standards, environmental regulations, procedures for internal environmental audits, various drills				
One-day brush-up course (once a year, mandatory)	Trends in environmental regulations, various drills to brush up auditing skills				
Environmental subjects (as needed, voluntary)	Environmentally sound design				
	Environmental regulations				
	Control of chemical substances contained in products				
Consolidated environmental management seminars	Seminars by experts on priority issues				

New Environmental Awards System

The Environmental Awards System was newly established in fiscal 2011 to increase employee motivation concerning environmental conservation efforts. There are three award categories within Furukawa Electric itself: Products, Activities, and Anti-Global Warming Efforts. Our affiliates also provide commendations for comprehensive environmental activities.

Award for Efforts to Increase Sales of Environmentally Sound Products

We started the Award for Efforts to Increase Sales of Environmentally Sound Products in recognition of the

importance of environmentally sound product sales and to promote their expansion. Each company is ranked according to the annual number of registrations and average sales ratio of environmentally sound products, with the top-ranking companies each year receiving awards.

In fiscal 2012 we examined the fiscal 2011 results, and a telecommunications company was selected. The award ceremony was held in July.

Anti-Global Warming Award

In recognition of the importance of environmentally sound business practices, we promote global warming initiatives by presenting awards for the best of the efforts made among the business divisions. There was little change in the amount of investment expenditure or the scale of the initiatives, and we continued to execute a variety of activities on a continuous planned basis. We put out a call for superior results among the companies, business departments, manufacturing departments, worksites, project teams, etc. in the following five categories: 1. Technology development; 2. Introduction of anti-global warming technology; 3. Practical measures; 4. Environmental education / awareness promotion; 5. Global contribution. The Environmental Award Examination Committee quantifies the results for those activities over the most recent one-year period as a rule, and determines the recipients of the Superior Excellence Award, the Excellence Award, and Strong Effort Award while also considering degree of difficulty and sustainability.

There were eight entrants in fiscal 2012, with two granted the Excellence Award and two the Strong Effort Award. The award ceremony was conducted in July.

Environmental Group Activity Presentation Meetings

We began holding our Environmental Group Activity Presentation Meetings in December 2010 to promote a variety of environmental activities. This is a venue not only for awarding large-scale activities involving facility investment, but also the daily efforts made throughout the Group and innovative, unique efforts.

The first Environmental Group Activity Presentation Meeting was held at the Head Office, with presentations made by seven groups selected from seven manufacturing facilities: Nikko, Copper Foil, Chiba, Yokohama, Hiratsuka, Mie, and Copper Pipe. As a result of strictly impartial judging by the 10-person committee, the Copper Foil Manufacturing Works won the Superior Excellence Award for its CO₂ emissions reduction efforts.



Environmental Group Activity Presentation Meeting

Material Flow

The Furukawa Electric Group strives to reduce various kinds of environmental impact, resource use and energy consumption in the course of conducting business.

Environmental Impact of the Furukawa Electric Group in Fiscal 2011

The Furukawa Electric Group has been expanding our environmental impact data collection range since fiscal 2011, adding 39 overseas affiliates along with Furukawa Electric and 28 domestic affiliates.

INPUT				Furukawa Electric				OUTPUT			
Category	Domestic	Overseas	Unit	Seven works, 28 domestic affiliated companies and 39 overseas affiliates				Category	Domestic	Overseas	Unit
Raw materials								Waste			
Copper	256,164	139,592	tons		Total waste generated	61,555	23,351	tons			
Aluminum	313,507	28,545	tons		Final waste disposal	1,359	5,052	tons			
Iron	5,801	6,801	tons		Recycling amount	55,788	13,293	tons			
Nickel	973	—	tons		Atmospheric emissions						
Chromium	191	—	tons		CO ₂	846,552	448,323	tons-CO ₂			
Manganese	1,543	—	tons		SO _x	110	—	tons			
Magnesium	5,396	—	tons		XO _x	690	—	tons			
Other metals	49,929	—	tons		Soot	47	—	tons			
Rubber	51	—	tons		Chemical substances						
Glass	142	623	tons		Volume emitted	218	—	tons			
Plastic	34,768	28,497	tons		Volume transferred	246	—	tons			
Energy	18,838	6,712	TJ		Wastewater	23,687	1,084	1,000 m³			
Electricity (purchased electricity)	1,098,223	462,780	MWh		Public waterways	22,498	507	1,000 m ³			
Electricity (hydroelectric power)	159,731	22,063	MWh		Rivers	20,828	282	1,000 m ³			
Electricity (solar power)	11	—	MWh		Sea	1,666	0	1,000 m ³			
City gas	44,261	1,532	1,000 m ³		Other	3	225	1,000 m ³			
LPG	40,962	1,648	tons	Sewer	1,189	577	1,000 m ³				
Heavy fuel oil A	11,249	1,153	kl	BOD	46	—	tons				
Kerosene	17,744	6	kl	COD	33	—	tons				
Light oil	624	357	kl	SS	34	—	tons				
Water	26,196	2,240	1,000 m³	Product shipping volume	894,370	—	tons				
Industrial water	19,429	72	1,000 m ³	Product collection volume	5,483	—	tons				
Groundwater	5,563	592	1,000 m ³	Type of cable	4,963	—	tons				
Tap water	1,204	1,576	1,000 m ³	Plastics	438	—	tons				
Chemical substances				Metals	82	—	tons				
Volume handled* ¹	60,169	—	tons	Volume of water recycled and reused	44,526	166,746	tons				
Packaging*²											
Cardboard	822	—	tons								
Wood	49,279	5,562	tons								
Plastic	399	—	tons								
Paper	379	621	tons								
Paper*³	84	—	tons								

*1 PRTR-listed substances

*2 Cardboard, wood, plastic, and paper used in product shipping

*3 OA paper, copy paper, etc. used at plants and offices

Targets and Performance

The Furukawa Electric Group is proceeding with environmental conservation activities such as the 2012 Medium-Term Plan for Environmental Preservation Activities and the annual plan based upon it.

The Furukawa Electric Group Annual Targets and Performance for Fiscal 2011

The Furukawa Electric Group set annual targets for activities in fiscal 2011 as well in accordance with the 2012 Medium-Term Plan for Environmental Preservation Activities. In addition to developing these activities at all of the Furukawa Electric Works, we also made progress in consolidating the overall Group targets and activities by reflecting them in the environmental management systems at each affiliate through the efforts of the Group Environmental Committee.

The Group hit or exceeded many of our targets as a result

of these activities, such as achieving a 17% reduction of greenhouse gas emissions in comparison to the benchmark year of fiscal 2001 for the Group overall, beating our 13% reduction target. Nevertheless, we failed to hit our targets in a number of categories, and we will redouble our efforts to do so from fiscal 2012 on, with the goal of fulfilling our 2012 Medium-Term Plan for Environmental Preservation Activities for the Group overall.

The Furukawa Electric Group Annual Targets and Performance for Fiscal 2011

Activities	Environmental preservation activity targets for fiscal 2011	Performance in fiscal 2011			
		Furukawa Electric	Rating	Affiliated companies	Rating
Waste reduction activities	95% or more recycling rate	96%	A	88%	C
Activities to prevent global warming	13% reduction in greenhouse gas emissions compared with fiscal 2001 level	17.9% reduction	A	17.2% reduction	A
	3% reduction in energy consumption compared with fiscal 2008 level	7.7% reduction	A	4% reduction	A
	1% reduction in specific energy consumption for manufacturing compared with the previous fiscal year	Achieved at 8/16 Divisions	C	Achieved at 12/16 Works	C
	4% reduction in specific energy consumption for transportation compared with fiscal 2007 level (1% reduction at affiliates compared to the previous fiscal year)	10.5% reduction	A	Achieved at 6/11 Works	C
Chemical substance management activities	36% reduction in emissions of volatile organic compounds compared with fiscal 2005 level	43% reduction	A	37% reduction	A
Green activities	Procurement rate for 60 general-purpose products: 100%	99%	A	Achieved at 8/9 companies ^{*2}	A
	Target number of affiliates for expansion: 5	Expanded to 9 affiliates ^{*1}	A	—	—
Eco-design activities	Sales percentage of environmentally sound products: 20% or more	20.9%	A	Underway at 5 companies	A
Biodiversity preservation	Formulation of the Furukawa Electric Group policy	Policy formulated and posted on our Webpage			A
	Development of a Companywide activity system and formulation of guidelines	Under examination			B

*1 Companies that use their own methods for data compilation are also included in the count as of fiscal 2011.

*2 Including affiliates that have set their own targets.

The Furukawa Electric Group Annual Targets for Fiscal 2012

Fiscal 2012 is seen as the year for “laying the groundwork” for fulfilling the 2012 Medium-Term Plan for Environmental Preservation Activities. Therefore, we newly established the “zero emissions achievement ratio” for detailed categories of waste reduction activities and have moved forward with zero emissions activities, setting 80% or better as our zero emissions target for all affiliates.

Also, we designated all VOCs as subject to our chemical substance management activities (VOC emissions volume), and also revised our targets by making hydrocarbon-based detergent subject to data compilation. We also plan to examine action models for biodiversity preservation as well as setting out guidelines for biodiversity impact assessment.

The Furukawa Electric Group Annual Targets for Fiscal 2012

Activities	Environmental preservation activity targets for fiscal 2012	2012 Medium-Term Plan for Environmental Preservation Activities
Waste reduction activities	Recycling rate	97% or more (95% or more for affiliates)
	Group zero emissions achievement ratio	Affiliates zero emissions achievement ratio: 80%
Activities to prevent global warming	Greenhouse gas emissions	Reduce by 14% compared to fiscal 2001
	Energy consumption	Reduce by 4% compared to fiscal 2008
	Specific energy consumption for production	Reduce by 1% compared to the previous fiscal year
	Specific energy consumption for transportation	Reduce by 5% compared to fiscal 2007 (Furukawa Electric only)
Chemical substance management activities	VOC emissions volume	Furukawa Electric: Reduce by 10% compared to fiscal 2008 ^{*1} Affiliated companies: Reduce by 42% compared to fiscal 2005 ^{*2}
		Optimal management of the quantity of chemical substances consumed
Green activities	Procurement rate for 60 general-purpose products: 100%	Expansion of general purpose green products
	Expand to affiliates	
Eco-design activities	Sales ratio for environmentally sound products: 25% or greater (Furukawa Electric only)	Increase in the development and sale of environmentally sound products
	Conduct LCA for all important products	Improvement in product environmental performance indices and increase in sales
Biodiversity preservation	Establish biodiversity impact guideline	Formulation of guidelines and establishments of systems
	Examine models for biodiversity action	

*1 Revised by adding “NS Clean” (hydrocarbon-based detergent) (Subject: All VOCs)

*2 As has been the case up to now, mainly two substances (toluene and xylene)

Environmentally Sound Products

The Furukawa Electric Group certifies and registers low-environmental impact products as “environmentally sound products,” and promotes their use.

Environmentally Sound Products and the e-Friendly Accreditation System

The Furukawa Electric Group certifies and registers as “environmentally sound products” those products with improved performance compared to existing products in the categories of materials and parts purchasing and manufacture, use, distribution and disposal.

In addition, we have created an “environmental mark,” e-Friendly, which is placed on those products and as well as in catalogues, so our customers can easily recognize environmentally sound products.



The e-Friendly mark

Environmentally sound product categories

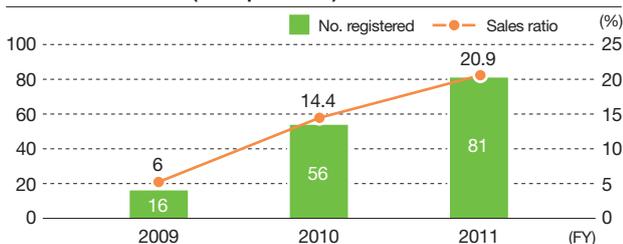
Category	Content
Prevention of global warming	Products with functions that help in the reduction of emissions as well as the absorption and stabilizing of greenhouse gases
Zero emission	Products made from recycled materials, products designed with easy-to-recycle components, products made from materials or with design facilitating volume reduction for lowering waste volume, products designed to share common components with other products or products designed as common components.
Elimination of materials that have an impact on the environment	Products that do not lead to an increase in the use of ozone-depleting substances during the manufacturing process, do not contain harmful substances above regulatory limits and do not generate harmful substances above these limits during use or disposal.
Energy savings	Products that result in overall energy savings by such means as reducing the use of raw materials and components as well as scarce resources, featuring enhanced longevity, allowing easier product and component maintenance, and reducing the use for resources in packaging.

Results and Future Targets for Environmentally Sound Products

Our Group calculates the ratio of total sales of environmentally sound products each year as we seek to expand their sales.

Our target for fiscal 2011 was 20% or better, which we exceeded at 20.9%. Our goal for fiscal 2012 is 25% or better.

Number of environmentally sound products registered and ratio of total sales (Group overall)



Visualization of Environmental Performance (Performance Indexing)

The Furukawa Electric Group has introduced Life-Cycle Assessments (LCA) to provide “visualization” indicators for the environmental performance of our main products, for CO₂ emissions and other factors.

We calculated the CO₂ emissions for 17 product lines of each division in fiscal 2011, and worked on establishing a Product Category Rules (PCR) Guideline and setting up an assessment system. We plan to do calculations for an additional 35 product lines in fiscal 2012, and establish the PCR Guideline. This will be expanded to all of our main products by fiscal 2013, and incorporated in our management indicators and results assessments, as well as in numerical indicators used in the next Medium-Term Plan and R&D.

[Data Book](#)

Ex.: LCA Calculation

Semiconductor laser module used in optical communications

Product type/use



980 nm wavelength and 1,480 nm wavelength optical communications pumping laser module

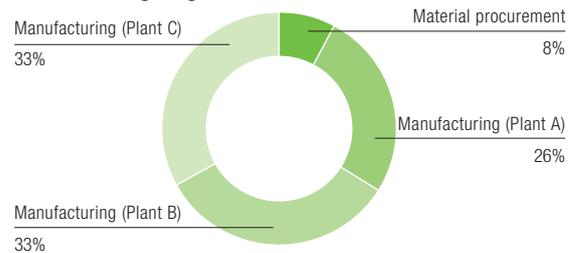
Calculation range

Our LCA calculation covers every stage of product life, from substrate wafer procurement through laser module manufacturing, distribution, use, and disposal.

Calculation Results

Our trial calculations showed that 92% of the total impact occurs at the manufacturing stage, so our future CO₂ emissions reduction efforts will include measures such as saving energy during the manufacturing stage.

Ratio of CO₂ emissions at procurement and manufacturing stages



Biodiversity Preservation

The Furukawa Electric Group has established biodiversity preservation as a new environmental theme which we are actively promoting.

Three Important Biodiversity Effort Categories

The Furukawa Electric Group is promoting biodiversity as one of our new environmental themes.

The subject of biodiversity was taken up at the Liaison Meeting for Consolidated Environmental Management held in November 2010. We established the Biodiversity Promotion Working Group composed of Headquarters divisions such as the Management Planning Department, Materials Procurement Division, Human Resource Development Unit, R&D Division, Manufacturing Technology Unit, and the CSR Division. The Working Group proceeded to reformulate our Basic Environmental Policy to include serious biodiversity efforts. This Basic Policy was approved by the Central Committee for Environmental Management in December, and subsequently at the Board of Directors meeting. We disclosed it on our homepage in April 2011.

We also established the following three important biodiversity categories to specify our biodiversity efforts, in recognition of the fact that our business, products and services are the result of biodiversity, and of our impact, whether positive or negative, on eco-systems.

Biodiversity Preservation: Three Important Categories

1. Assess the impact of business practices on eco-systems, and work to minimize the negative impact and maximize the positive.
2. Promote sustainable resource use in consideration of biodiversity preservation through anti-climate change measures, resource conservation, and resource re-use, as well increasing efforts to reduce the use of environmental impact-causing substances.
3. By raising the consciousness of each individual, we actively promote biodiversity preservation in tandem with society.

Biodiversity-Themed Consolidated Environmental Management Seminars

There were 39 participants at the Consolidated Environmental Management Seminar conducted in November 2010, including 27 from Furukawa Electric and 12 from our affiliates. The first half of the seminar consisted in a lecture by a professor entitled "Corporate Biodiversity Efforts from a COP10 Perspective." In the second half we held talks with that professor and Furukawa Electric's CSRO.

A survey conducted afterward showed that the majority of participants felt that while the biodiversity theme itself is difficult to comprehend, they were able to understand the significance and importance of the subject, as well as the global biodiversity trend. They also felt that the professor gave easily understood replies with examples in response to the clear questions with deep connections to business practices asked by CSRO. We will use these results in planning effective means for participants to learn and become more aware of the environment.



Dr. Naoki Adachi of JBIB discussing "Corporate Biodiversity Efforts from a COP10 Perspective" with CSRO Sato of Furukawa Electric

Participation in Eco-Products 2010

Furukawa Electric exhibited at the Eco-Products 2010 environmental trade show, the largest of its kind in Japan, in December 2010.

On the day of the show our booth, which was based on our plastic Hydro-Staff rainwater reserve system, displayed panels focusing on three sectors and environmental activities: Smart grids, ultra-high-capacity optical communications, and next-generation vehicles. In our environmental activities corner we conducted special PR concerning our environmentally sound products, recycling technologies, and environmental performance indexing of products using LCA. We also provided demonstrations of our latest technologies, such as superconductivity on the trade show stage. There were many visitors to our booth who showed their appreciation by pointing out that they gained an understanding of our environmental efforts.



Hydro-Staff



Furukawa Electric Booth at Eco-Products 2010

Environmentally Conscious Production

The Furukawa Electric Group is engaging in variety of efforts to reduce the environmental impact caused by our manufacturing and distribution processes.

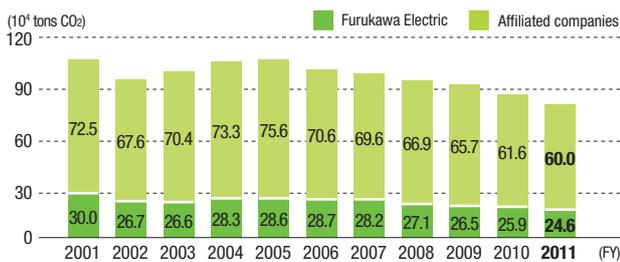
Reducing Greenhouse Gas Emissions

Initiatives at Works

The majority of the Group's greenhouse gas emissions consist of CO₂ generated from electricity, fuel and other energy sources. As emissions from manufacturing processes account for a large proportion, we work on reducing emissions by increasing the efficiency of production processes, switching fuels, replacing equipment with more efficient alternatives, insulating hot areas and other measures.

Total Group GHG emissions came to 847,000 tons of CO₂ in fiscal 2011, a reduction of 17.4% against fiscal 2001 levels. On a non-consolidated basis, we achieved an equivalent of 246,000 tons of CO₂, a reduction of 17.9% compared to fiscal 2001. [Data Book](#)

Greenhouse gas emissions



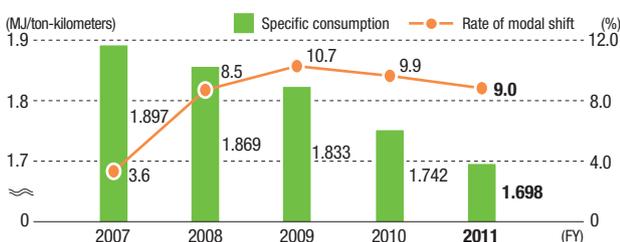
Note: 1. The emissions coefficients of the respective power companies are used to convert power use volumes.
 2. CO₂ emissions attributable to hydroelectric power are deemed to be zero.
 3. The portion for the Furukawa Magnet Wire Co., Ltd. Mie Works is excluded retroactively in 2000, and is included in that for affiliates.

Initiatives in Logistics

In fiscal 2011, total transportation volume for the Furukawa Electric Group increased 7.7% year-on-year to 476 million ton-kilometers. Of this total, Furukawa Electric alone accounts for 135 million ton-kilometers. While this is roughly the same as in fiscal 2010, the Company decreased CO₂ emissions by 5.6% year-on-year to 15,300 tons, due largely to enhancements in loading rates. In addition, Furukawa Electric achieved a reduction of 10.5% in specific consumption from fiscal 2007.

Long-distance shipping is decreasing and the modal shift rate is on a downward trend, but we will continue to promote modal shifts, increased loading rates, joint shipping and similar measures to decrease the energy used in shipping. [Data Book](#)

Modal shift and specific consumption (Furukawa Electric only)



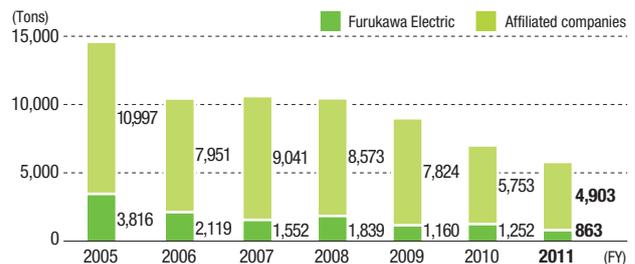
Zero Emission Activities

The Furukawa Electric Group began taking action to reduce outsourced waste disposal in fiscal 1994, and launched zero emission efforts in fiscal 2002 for reducing the volume of final disposal to less than 1% of the total volume of waste by directly transporting waste from each works to final disposal sites.

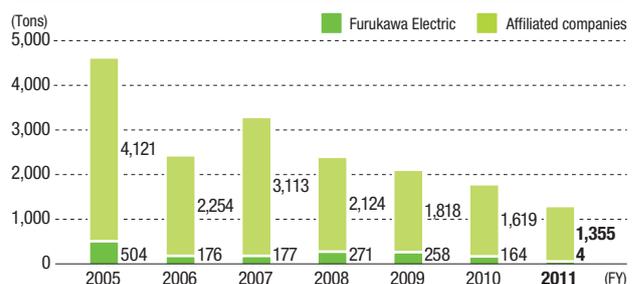
As a result of our efforts to meticulously sort waste and recycle waste acid and sludge into useful resources, the overall level of outsourced waste (which was not recycled) disposal for the Group for fiscal 2011 fell by 61% compared with fiscal 2005 to 5,766 tons. Also, the volume of waste directly sent to landfills fell by 71% (to 1,359 tons) in comparison to fiscal 2005 for the Group overall, and by 99% for Furukawa Electric alone.

Under the 2012 Medium-Term Plan for Environmental Preservation Activities, a waste recycling rate (the ratio of recycled waste compared to total waste volume) target will be added beginning in fiscal 2012. [Data Book](#)

Non-recycled processed waste volumes



Direct landfill disposal



Green Activities

Response to Customer Requests

When the Furukawa Electric Group receives a request from a customer for information concerning chemical substances in our products, the Group, including affiliates, conducts a thorough environmental examination. We also monitor trends in laws and regulations covering the chemical substances contained in products and compile data as it becomes available, allowing us to respond promptly to customer requests.

Furthermore, by collecting information from each industrial organization and conducting seminars, as well as participating in

research groups, we can monitor environmental regulations and social issues/items of concern. This enables us to incorporate customer needs in our environmental conservation targets.

Response to Overseas Regulations (REACH Regulations, RoHS Directive)

SVHCs* in the REACH regulations will henceforth be announced every six months, with one hundred and several tens of substances subject to regulation.

In regard to the 31 SVHCs announced in fiscal 2011, the Group conducted a total of three environmental inspections corresponding to each announcement.

* Substance of Very High Concern. Use or marketing of SVHCs requires approval, and manufacturers are liable to submit notification if an SVHC exceeds 0.1% weight content.

FGMS Regular Auditing

Our FGMS Regular Auditing (control of chemical substances contained in products) in fiscal 2011 was conducted through self-checking and examination at 12 supplier plants, five affiliate plants, and three plants of affiliates' suppliers. We will continue to

monitor environmental risks that must be reduced, and expand and implement auditing according to degree of importance.

Expanding Green Procurement to Include Affiliates

When the Green Purchasing Law was amended (re-certification of compliant products) at the end of fiscal 2010, 52 of the 60 categories of general-purpose products purchased for use in Group offices were compliant with the law. We are currently engaged in efforts to make all of the products we purchase compliant with the law, with similar efforts underway at our affiliates.

Also, purchases of items for use in our products are made based on our Green Procurement Guidelines, with the selection of appropriate items based on the establishment and implementation status of the FGMS system at the supplier and assessment of data on chemical substances contained in the products. We continue to implement Green Procurement in regard to our main suppliers and products purchased, and henceforth aim to expand it for application to all components.

Initiatives for the Environment

Chemical Substance Management Activities

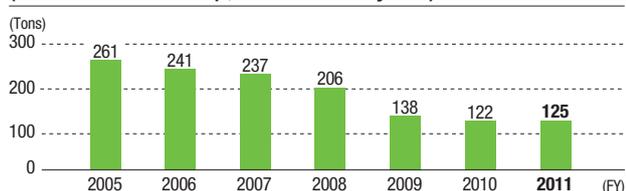
The Furukawa Electric Group strives for proper management of chemical substances, and conducts planned actions such as eliminating, reducing, or finding substitutes for chemicals.

Chemical Substance Management Activities

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.

Overall Group emissions (of toluene and xylene) in fiscal 2011 were down 52% compared to fiscal 2005. The emissions of Furukawa Electric alone (including substances other than toluene and xylene) had been reduced 43% in comparison to fiscal 2005. Also, three of the four affiliates that had been using organochlorine compounds completely phased out their use

Emissions of volatile organic compounds (For the overall Group, toluene and xylene)



during fiscal 2011, while the remaining affiliate is looking into discontinuing their use. [Data Book](#)

Appropriate Management of Chemical Substances

At the Furukawa Electric Group, we confirm the properties and applicable laws and regulations regarding all chemical substances we use during the manufacturing process on their Material Safety Data Sheets and administrate them. We also monitor the usage volume of chemical substances listed in the PRTR Law*. [Data Book](#)

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

Reducing Emission of Volatile Organic Compounds

Our Group is voluntarily working to reduce emissions of VOCs.

At Furukawa Electric we mainly focus on toluene and isopropyl alcohol (IPA), and have hit our target for toluene reduction by substituting low-toxicity hydrocarbon-based detergent for toluene in the copper strip degreasing process. From now on we will also include hydrocarbon-based detergent in our VOC reduction control efforts, and seek to reduce its use.

Environmental Risk Management

The Furukawa Electric Group seeks to prevent pollution, properly handle environmental accidents, and reduce latent environmental risk in our operations.

Preventing Soil and Groundwater Pollution

The Furukawa Electric Group engages in the management of specific toxic substances and conducts regular inspections for leaks so as to have no harmful impact on the soil or groundwater in our communities. We continuously seek to reduce the risk of pollution by preventing leaks and switching to substitute substances.

In fiscal 2011, we began proper disposal of the slag stored in the Oyama area (a plant site of the former Furukawa Magnesium Co., Ltd.). Soil remediation through excavation and removal has been conducted at locations where site examinations have found contamination. Also, we have executed measures for soil remediation and prevention of groundwater diffusion at some sites where groundwater has been found to exceed contamination standards. We will continue to implement measures as we monitor progress.

Among our affiliates, groundwater measures begun in the previous fiscal year were ongoing at the Ibaraki Plant owned by Aoyama Kinsho Co., Ltd.

Effort to Prevent Atmospheric and Wastewater Pollution

Every Furukawa Electric works maintains voluntary control limits and manages operations to avoid exceeding regulatory limits for atmospheric and wastewater quality.

In fiscal 2011, due to the impact of the Great East Japan Earthquake, COD (chemical oxygen demand) temporarily exceeded regulatory limits at our Chiba Works, but afterward returned to normal. With the exception of that incident, the air and water quality data at all of our manufacturing works was within the regulatory limits.

 [Management status at works
http://www.furukawa.co.jp/english/csr/evnroment/risk.htm](http://www.furukawa.co.jp/english/csr/evnroment/risk.htm)

PCB Management

The Furukawa Electric Group monitors the amount of PCB-containing equipment at each of our Works and affiliate company sites, and conducts proper storage and management. PCB waste is registered promptly with the Japan Environmental Safety Corporation, which we contract for planned, sequential PCB disposal. Also, condensers and transformers removed from our facilities are examined for PCB content on a case-by-case basis. We are also proceeding

with planned examination of equipment containing even small amounts of PCB, with all examinations slated for completion by fiscal 2013.

 [Number of instruments containing PCB
http://www.furukawa.co.jp/english/csr/evnroment/risk.htm](http://www.furukawa.co.jp/english/csr/evnroment/risk.htm)

Response to Asbestos Concerns

Although our company does not currently produce or import any products containing asbestos, some of the industrial-use products we made and sold in the past did contain asbestos. These include electrical wiring for ships, and fire-resistant products for constructing telecommunications and electrical power facilities, etc. For details please visit our homepage.

We are currently examining the buildings and plants of Furukawa Electric and our affiliates to determine if asbestos-containing building materials have been used. Inspections for asbestos dispersal in buildings in which spray-on materials had been used have confirmed the presence of asbestos, and removal work or containment measures have been taken to prevent future dispersal. We have also proceeded to replace equipment and fixtures in which asbestos insulation has been used so as to prevent dispersal, with planned replacements of items which are currently not dispersing asbestos with items not containing it timed to coincide with regular inspections or facility renewal.

 [Response to Asbestos Concerns \(Details\)
http://www.furukawa.co.jp/english/csr/evnroment/risk.htm](http://www.furukawa.co.jp/english/csr/evnroment/risk.htm)

Environmental Accident Response

Emergency situations such as environmental accidents can impact the surrounding area, sometimes seriously.

At the Furukawa Electric Group, we conduct annual checks for conceivable, clear environmental impact so as to prevent environmental accidents or prevent widespread impact in the event of an accident. We also conduct simulation drills that presuppose post-accident responses.

Nonetheless, in fiscal 2011 an operational error at an affiliate in Kita-Kyushu City caused an accident resulting in COD (chemical oxygen demand) exceeding standard levels. The incident was immediately reported, and recurrence prevention methods were taken. The authorities conducted an on-site inspection related to this incident, and served the affiliate with a cautionary notice.