

## Initiatives for the Environment

### Environmental Management

#### Furukawa Electric Group Basic Environmental Policy

##### Basic Philosophy

**We, the employees of the Furukawa Electric Group, recognize that conservation 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

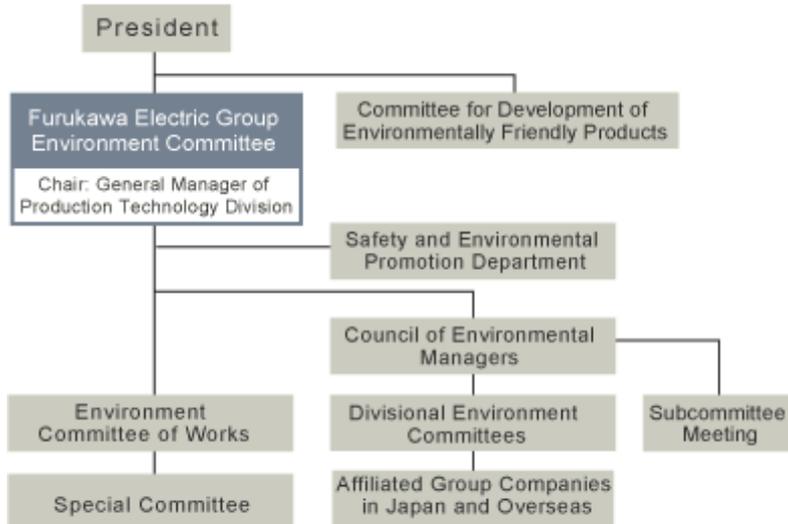
1. We shall comply with environmental laws and regulations as well as the demands of our customers and others, setting ever higher environmental targets as we continuously improve our global environmental conservation efforts.
2. We shall strive to develop products that are friendly to the Earth, and 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 conservation 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

##### Environmental Management Organization

In April 2013, we underwent organizational restructuring, transitioning to a strategic business unit system. We also renamed our highest-level advisory body related to environmental management the Furukawa Electric Group Environment Committee and promoted environmental management under a new structure. We established the new Council of Environmental Managers to facilitate smooth decision making on environmental management and consolidated the special committees that have performed these functions in past.

## Environmental management promotion organization



### Message from the General Managers

Since FY2014, we have carried out a reconstruction of our management system with a view to environmental conservation activities on a global scale, in response to our Group Management Policy. The basic policy for environmental activities has been set out in a clear order as follows: I. Social contributions; II. Pollution prevention; III. Saving energy and resources. Firstly, as a manufacturer it is our social responsibility to make sure that our customers can use our products and services with safety and peace of mind. We also need to carry out business activities that allow society to use our products and services in way that contributes to the conservation of the global environment (design and development → procurement and production → supply and recovery). Secondly, as we develop products and carry out production activities, we need to manage chemical and other substances in an appropriate way, and work hard to prevent pollution. Thirdly, by manufacturing in a way that makes efficient use of limited resources and energy, we need to leave a beautiful natural environment to future generations and carry out environmental management activities that allow us to contribute to the realization of a rich society.



### Hisashi Iwama

General Manager, Safety & Environment Promotion Department, Production Technology Division

### Scope of the environmental management

The Group companies' scope of the environmental management includes 33 domestic affiliated companies and 61 overseas affiliated companies. Since the environmental impact of the former Furukawa-Sky Aluminum Corp. used to account for about half of that of the domestic affiliates, and it was excluded from the scope of the environmental management in fiscal 2014, we amended the past figures retroactively.

**33 affiliated companies in Japan**

- |     |   |     |  |
|-----|---|-----|--|
| 1.  | Access Cable Company                                | 18. | Furukawa Electric Ecotec Co., Ltd.           |
| 2.  | NTEC Ltd.   | 19. | Furukawa Electric Industrial Cable Co., Ltd. |
| 3.  | FCM Co., Ltd.                                       | 20. | Furukawa Electric Power Systems Co., Ltd.    |
| 4.  | Okano Electric Wire Co., Ltd.                       | 21. | The Furukawa Battery Co., Ltd.               |
| 5.  | Okumura Metals Co., Ltd.                            | 22. | Furukawa Logistics Corp.                     |
| 6.  | KANZACC Corp.                                       | 23. | Furukawa Magnet Wire Co., Ltd.               |
| 7.  | Shodensha Co., Ltd.                                 | 24. | Furukawa Life Service Inc.                   |
| 8.  | Seiwa Giken Inc.                                    | 25. | Miharu Communications Inc.                   |
| 9.  | TOTOKU Electric Co, Ltd.                            | 26. | Riken Electric Wire Co., Ltd.                |
| 10. | FITEC Corporation                                   | 27. | Furukawa Network Solution Corp.              |
| 11. | Furukawa Automotive Systems Inc.                    | 28. | The Furukawa Finance and Business            |
| 12. | Furukawa Sangyo Kaisha, Ltd.                        |     | Support Co., Ltd.                            |
| 13. | Furukawa C&B Co., Ltd.                              | 29. | Furukawa New Leaf Co., Ltd.                  |
| 14. | Furukawa Industrial Plastics Co., Ltd.              | 30. | The Foam Kasei Co., Ltd.                     |
| 15. | Furukawa Precision Engineering Co., Ltd.            | 31. | Furukawa Nikko Power Generation Inc.         |
| 16. | Furukawa Techno Material Co., Ltd.                  | 32. | Furukawa Elecom Co., Ltd.                    |
| 17. | Furukawa Electric Advanced Engineering Co.,<br>Ltd. | 33. | Myojodenki Co., Ltd.                         |

## 61 Overseas affiliated companies

1. SHENYANG FURUKAWA CABLE CO., LTD
2. Suzhou Furukawa Power Optic Cable Co., Ltd.
3. P.T.Tembaga Mulia Semanan
4. Trocellen GmbH
5. POLIFOAM MUANYAGFELDOLGOZO KFT
6. Trocellen Italia Holding S.r.l.
7. Trocellen Italy S.p.A.
8. Trocellen S.E.A. Sdn Bhd
9. Furukawa Industrial S.A. Produtos Eletricos
10. Furukawa Industrial S.A. Sucursal Argentina
11. Furukawa Cabos e Acessorios Ltda.
12. OFS FITEL, LLC
13. OFS Fitel Denmark Aps
14. OFS Fitel Deutschland GmbH
15. Thai Fiber Optics Co., Ltd.
16. Bangkok Telecom Co., Ltd.
17. P.T. Furukawa Optical Solutions Indonesia
18. Furukawa FITEL (Thailand) Co., Ltd.
19. Furukawa Fitel Optical Products (Shanghai) Co., LTD.
20. DONGGUAN FURUKAWA TOTOKU OPT ELECTRONICS CO., LTD.
21. FURUKAWA TOTOKU (HONG KONG) LIMITED
22. Thai Furukawa Unicomm Engineering Co., Ltd.
23. FE Magnet Wire (Malaysia) Sdn. Bhd.
24. Taiwan Furukawa Electric Co., Ltd.
25. FURUKAWA AVC ELECTRONICS (SUZHOU) CO., LTD.
26. Furukawa Automotive Systems (Thailand) Co., Ltd
27. Furukawa Wiring Systems Mexico S.A. De C.V.
28. Minda Furukawa Electric Private Ltd.
29. P.T. Furukawa Permintex Autoparts Indonesia
30. Furukawa Electric (Shenzhen) Co., Ltd.
31. Changchun Furukawa Automobil Harness Co., Ltd.
32. FURUKAWA AUTOMOTIVE SYSTEMS VIETNAM INC.
33. Furukawa Electric Autoparts (Philippines) Inc.
34. Permintex Furukawa Autoparts Malaysia Sdn. Bhd.
35. Furukawa Electric Autoparts Central Europe, s.r.o
36. Furukawa Automotive Parts (Vietnam) Inc.
37. FURUKAWA AUTOMOTIVE PARTS (DONG GUAN) LTD.
38. Furukawa Auto Parts (Huizhou) Ltd.
39. Furukawa Mexico S.A. De C.V.
40. TIANJIN JIN HE ELECTRIC ENGINEERING CO., LTD
41. Furukawa Automotive Systems Kabinburi (Thailand) Co., Ltd.
42. Furukawa Automotive Systems Lima Philippines, Inc.
43. Furukawa Precision (Thailand) Co., Ltd.
44. Xin Furukawa Metal (Wuxi) Co., Ltd.
45. Furukawa Metal (Thailand) Public Co., Ltd.
46. Shanghai Sunshine Copper Products Co., Ltd.
47. SHANGHAI KORYU METALS CO., LTD.
48. Okumura Metals Malaysia Sdn. Bhd.
49. GUANGZHOU AUTOM AIRCONDITIONER PARTS CO., LTD.
50. OKUMURA METALS THAILAND CO., LTD.
51. Furukawa Electric Copper Foil Taiwan Co., Ltd.
52. Furukawa Circuit Foil Taiwan Corporation
53. Furukawa Management Shanghai, Ltd.
54. Furukawa Thai Holdings Co., Ltd.
55. Furukawa Electric Institute of Technology Ltd.
56. SuperPower Inc.
57. Furukawa Electric Europe Limited
58. Furukawa Electric Singapore Pte. Ltd.
59. FURUKAWA SHIANHAI, LTD.
60. Furukawa (Thailand) Co., Ltd.
61. Furukawa Electric Hong Kong Limited

Furukawa Electric and the Group's domestic affiliated companies engaged in the production activities acquired ISO14001 certification pertaining to environmental management. We are also working to establish an environmental management structure that meets the requirement of ISO 14001, etc., at overseas, and about 70% of overseas affiliated companies acquired the said certification.

## Topics

### Acquired the highest rating “A” in the Environmental Responsibility Rating of the Development Bank of Japan.

Furukawa Electric acquired the highest rating of “A” in the Environmental Responsibility Rating operated by the Development Bank of Japan. The Company was highly evaluated particularly for its establishment of a global system and development of environmentally friendly products. The Company had also acquired the same rating in 2006, and it was the first company in the electric wire and cable industry to be assigned the highest rating.



## Environmental Education

### Environmental Education System and Environmental Education Programs

Furukawa Electric Group conducts various types of environmental education to cultivate among employees the understanding that is necessary to conduct environmental activities and raise their environmental consciousness. In fiscal 2014, 52 employees attended our ISO 14001 Internal Environmental Auditor Course, 12 attended our FGMS<sup>(note 1)</sup> Auditor Course.

(note 1) 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 conservation 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, voluntary)	Trends in environmental regulations, various drills to brush up auditing skills		←→	←→	
Environmental subjects (as needed, voluntary)	Environmentally considerate design		←→	←→	
	Environmental regulations		←→	←→	←→
	Control of chemical substances contained in products		←→	←→	←→
Consolidated environmental management seminars	Seminars by experts on priority issues				←→

### Environmental Awards System

To ramp up our awareness of environmental issues and our environmental activities, in fiscal 2011 we introduced an environmental awards system. We established three award categories for Furukawa Electric (parent company), which are namely, "Expanding Sales of Environmentally Friendly Products," "Global Warming Prevention Activities," and "Group Activities." Concerning the Group's affiliated companies, we grant an award to those which demonstrated an excellent performance based on a comprehensive evaluation of their environmental activities.

### Environmental Accounting

Furukawa Electric Group has introduced environmental accounting to gain a quantitative understanding of costs and conduct its environmental activities efficiently and effectively.

All data is compiled in accordance with the Environmental Accounting Guidelines (2005 edition) published by the Ministry of the Environment.

Data on affiliated companies is compiled for 18 companies in Japan.

Environmental conservation costs for the Group during fiscal 2014 came to ¥3.7 billion in expenses, and investment amounted to ¥0.6 billion. Compared with the preceding fiscal year, Furukawa Electric reduced its expenses ¥2.8 billion and reduced investment by ¥0.3 billion.

Owing in part to an increase in electricity rates, energy expenses for the entire Group increased approximately ¥1.0 billion.

### The Group companies' scope of the environmental accounting

- |                                     |  |
|-------------------------------------|--|
| 1. Furukawa Electric Co., Ltd.      | 11. Furukawa Industrial Plastics Co., Ltd.       |
| 2. Access Cable Company             | 12. Furukawa Techno Material Co., Ltd.           |
| 3. NTEC Ltd.                        | 13. Furukawa Electric Ecotec Co., Ltd.           |
| 4. Okano Electric Wire Co., Ltd.    | 14. Furukawa Electric Industrial Cable Co., Ltd. |
| 5. Okumura Metals Co., Ltd.         | 15. Furukawa Electric Power Systems Co., Ltd.    |
| 6. Shodensha Co., Ltd.              | 16. The Furukawa Battery Co., Ltd.               |
| 7. TOTOKU Electric Co, Ltd.         | 17. Furukawa Magnet Wire Co., Ltd.               |
| 8. Furukawa Automotive Systems Inc. | 18. Miharu Communications Inc.                   |
| 9. Furukawa Sangyo Kaisha, Ltd.     | 19. Riken Electric Wire Co., Ltd.                |
| 10. Furukawa C&B Co., Ltd.          |  |

### Environmental conservation costs (Unit: million yen)

Category	Key activity and the outcome	Furukawa Electric		Affiliated companies
		Total costs	Year on year	Total costs
(1)Business area costs	Pollution prevention (air pollution, etc.), energy conservation, waste disposal, etc.	1,180	-83	404
(2)Upstream/downstream costs	Recovery of packaging, drums, etc.	346	-107	234
(3)Administration costs	Environmental management system auditing, environmental impact monitoring, etc.	359	15	86
(4)Research and development costs	Development of environmentally friendly products, research into alternatives for harmful substances	1,027	55	60
(5)Social activity cost	Tree planting, local community cleaning activities, donations, etc.	2	-0	5
(6)Environmental remediation costs	Environmental impact assessments, cleanup of polluted soil, etc.	1	0	0
<b>Total</b>		<b>2,916</b>	<b>-120</b>	<b>789</b>

**Economic benefits associated with environmental conservation activities** (Unit: million yen)

Details of benefits	Total benefit	
	Furukawa Electric	Affiliated companies
Revenue from recycling	303	356
Reduction in waste disposal costs	5	-8
Reduction in energy costs	-345	-648
Reduction in water purchase costs	-5	-1
<b>Total</b>	<b>-41</b>	<b>-301</b>

(note) Minus figures indicate an increase.

**Environmental conservation benefits**

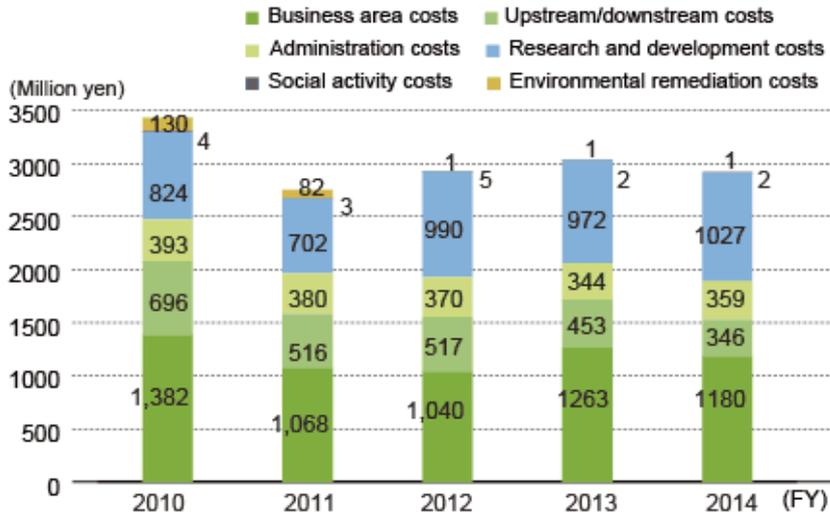
Emissions causing environmental impact	Unit	Reduction	
		Furukawa Electric	Affiliated companies
Volume of industrial waste disposal processed <sup>(note 2)</sup>	tons	102	-5
Energy consumption (crude oil equivalent)	1,000 kl	12	1
Water consumption	1,000 tons	-1,260	-345
Emissions of volatile organic chemical compounds	tons	4	-2
CO <sub>2</sub> emissions	1,000 tons-CO <sub>2</sub>	1	-10
SOx emissions	tons	15	-0
NOx emissions	tons	-24	117
Soot emissions	tons	-1	24

(note 2) Excluding recycled wastet

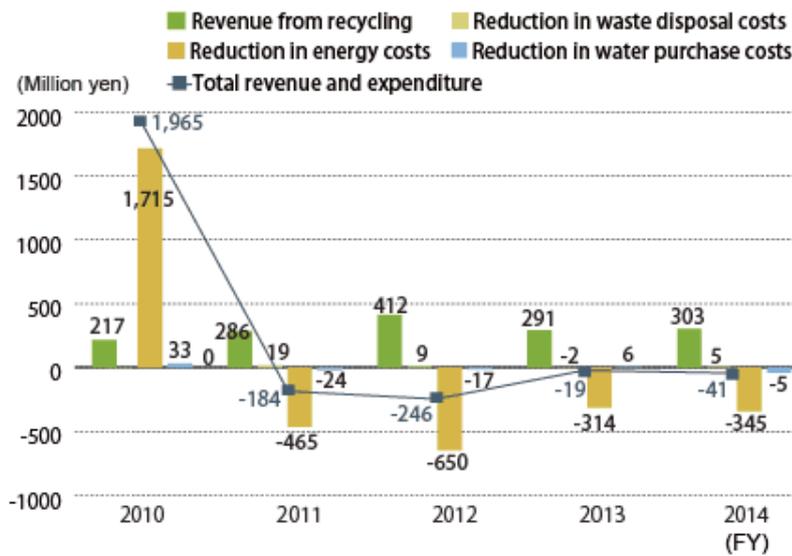
(note) Minus figures indicate an increase.

**Investment and research costs** (Unit: million yen)

Investment and research costs	Total costs	
	Furukawa Electric	Affiliated companies
Environment-related investment	259	327
Total investment	4,977	7,250
Total research costs	7,747	2,188

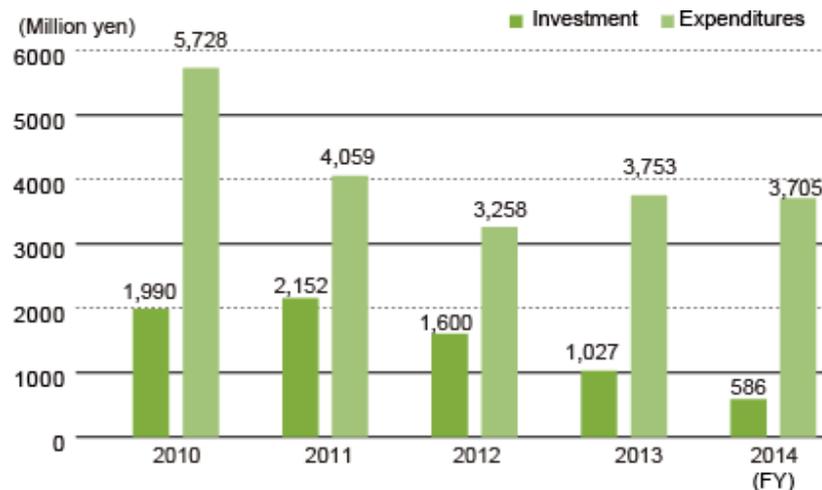


Environmental conservation costs (Furukawa Electric)



Economic benefits (Furukawa Electric)

Environment-Related Investment and Expenditures (Furukawa Electric and Affiliated Companies)



# Material Flow

## Environmental Impact of the Furukawa Electric Group in Fiscal 2014

INPUT				OUTPUT				
Category	Domestic	Overseas	Unit	Category	Domestic	Overseas	Unit	
<b>Raw materials</b>				Furukawa Electric 7 works, 33 domestic affiliated companies and 61 overseas affiliates	<b>Waste</b>			
Copper	183,508	178,954	tons		Total waste generated	32,943	38,194	tons
Aluminum	1,312	35,892	tons		Final waste disposal	443	8,557	tons
Iron	3,001	7,533	tons		Recycling amount	30,757	28,331	tons
Nickel	511	—	tons		<b>Atmospheric emissions</b>			
Chromium	29	—	tons		CO <sub>2</sub>	412,804	385,400	tons-CO <sub>2</sub>
Manganese	1	—	tons		SO <sub>x</sub>	48	—	tons
Magnesium	0	—	tons		NO <sub>x</sub>	102	—	tons
Other metals	3,176	—	tons		Soot	5	—	tons
Rubber	41	—	tons		<b>Chemical substances</b>			
Glass	34	2,846	tons		Volume emitted	204	—	tons
Plastic	37,607	29,088	tons		Volume transferred	189	—	tons
<b>Energy</b>					<b>Wastewater</b>			
Electricity (purchased electricity)	592,671	584,787	MWh		Public waterways	17,941	1,499	1,000m <sup>3</sup>
Electricity (hydroelectric power)	92,205	26,602	MWh		Rivers	15,975	292	1,000m <sup>3</sup>
Electricity (solar power)	10	—	MWh		Sea	1,393	0	1,000m <sup>3</sup>
City gas	6,424	8,149	1,000m <sup>3</sup>	Other	3	221	1,000m <sup>3</sup>	
LPG	16,647	2,188	tons	Sewer	570	987	1,000m <sup>3</sup>	
Heavy fuel oil A	7,895	1,103	kl	BOD	50	—	tons	
Kerosene	2,505	12	kl	COD	31	—	tons	
Light oil	264	101	kl	SS	39	—	tons	
<b>Water</b>				<b>Product shipping volume</b>				
Industrial water	16,482	46	1,000m <sup>3</sup>	Product shipping volume	335,889	—	tons	
Groundwater	2,859	326	1,000m <sup>3</sup>	<b>Product collection volume</b>				
Tap water	797	2,317	1,000m <sup>3</sup>	Product collection volume	10,865	—	tons	
<b>Chemical substances</b>				Type of cable	8,917	—	tons	
Volume handled (note 1)	52,431	—	tons	Plastics	636	—	tons	
<b>Packaging (note 2)</b>				Metals	499	—	tons	
Cardboard	816	—	tons	Other	812	—	tons	
Wood	1,093	898	tons	<b>Volume of water recycled and reused</b>				
Plastic	115	234	tons	Volume of water recycled and reused	1,128	10,357	1,000m <sup>3</sup>	
Paper	72	1,189	tons					
<b>Paper (note 3)</b>								
Paper (note 3)	65	—	tons					

(note 1) PRTR-listed substances

(note 2) Cardboard, wood, plastic, and paper used in product shipping

(note 3) OA paper, copy paper, etc. used at plants and offices

## Targets and Performance of Environmental Conservation Activities

[Achievement]  Achieved  Partially achieved  Not achieved

Activities		Furukawa Electric Group (Japan)			
		Targets for fiscal 2014	Performance in fiscal 2014	Achievement	Targets for fiscal 2015
Activities to prevent global warming	Greenhouse gas emissions	Reduce by 1% compared to the previous fiscal year	2.1% increase		Reduce by 2% compared to fiscal 2013
	Energy consumption	Reduce by 6% compared to fiscal 2008	23.4% reduction		Reduce by 2% compared to fiscal 2013
	Specific energy consumption for production	Reduce by 1% compared to the previous fiscal year	Achieved at 12/18 Divisions (Furukawa Electric only)		Reduce by 4% compared to fiscal 2013
	Specific energy consumption for transportation	Reduce by 7% compared to fiscal 2007	13.6% reduction (Furukawa Electric only)		Reduce by 2% compared to fiscal 2013
Waste reduction activities	Recycling rate	94% or more	95.0%		-
	Ratio of achieving zero emissions	Ratio of sites achieving zero emissions: 90% or more	88.5		Absolute volume of waste disposal reduced by 2% from fiscal 2013
Effective use of water		Consider reducing volume of water withdrawn	-	-	Consumption rate reduced by 1% from the previous fiscal year
Chemical substance management activities	VOC emissions volume	Reduce by 1% compared to the previous fiscal year	0.4% reduction		Reduce by 2% compared to fiscal 2013
Green activities		Expand to Group companies	18 companies		-
Eco-design activities	Sales ratio for environmentally friendly products: 30% or greater		24.3%		35% or more
	Roll out to Group companies (conduct of LCA)		12 companies		-
Biodiversity conservation	Formulation of biodiversity guidelines and creation of structures		Concrete guideline under deliberation		-
	Participation in regional biodiversity conservation activities		-	-	Participation in regional biodiversity conservation activities

We have established common goals of the environmental conservation activities for our overseas affiliates in fiscal 2015. They comprise the five items of waste reduction, lower water consumption, abatement of greenhouse gas emissions, reduction of energy consumption rate and management of harmful substances.

## Activities Targets and Performance in Fiscal 2014

Furukawa Electric Group defines medium-term environmental targets every three years. Each year, we establish targets for environmental conservation activities based on these plans. We reflect these targets at affiliated companies in Japan and overseas, ensure that targets are consistent throughout the global Group and work together to achieve them.

With regards to the greenhouse gas emissions in activities to prevent global warming, the Group could not achieve the goal as a whole due to a worsened emission factor caused by the accident at the nuclear power generation plant after the Great East Japan Earthquake. However, Furukawa Electric on a non-consolidated basis met its energy consumption targets, as did affiliated companies.

## Activity Targets in Fiscal 2015

For fiscal 2015, we added two new goals of absolute waste volume reduction and lowering water consumption unit. In addition, we reset the standard year to fiscal 2013 which is closer to the present, and the entire Group will strive to carry out the action plans thoroughly to achieve the goals.

## Environmentally Friendly Products

### Environmentally Friendly Products and the e-Friendly Accreditation System

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



The e-Friendly mark

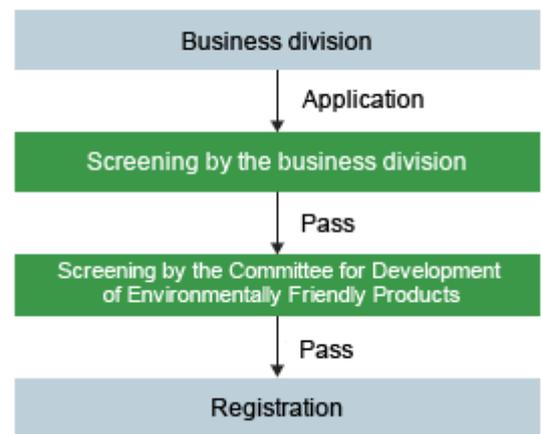
We have created the “e-Friendly” environmental mark to identify such environmentally friendly products. This mark is placed on those products,

### Application and Registration of Environmentally Friendly Products

The criteria for an environmentally friendly product are met when it offers an overall improvement from an environmental standpoint when compared with existing products and based on predetermined standards at each stage, from the purchasing of raw materials and components, manufacturing and use to distribution and disposal.

Following application and screening by the business division, products that pass the screening conducted by the Committee for Development of Environmentally Friendly Products, a cross-functional organization of the Group, are registered as environmentally friendly products.

Registration process for environmentally friendly products



## Categories of Environmentally Friendly Products

The Group's environmentally friendly products belong to one of four categories described below.

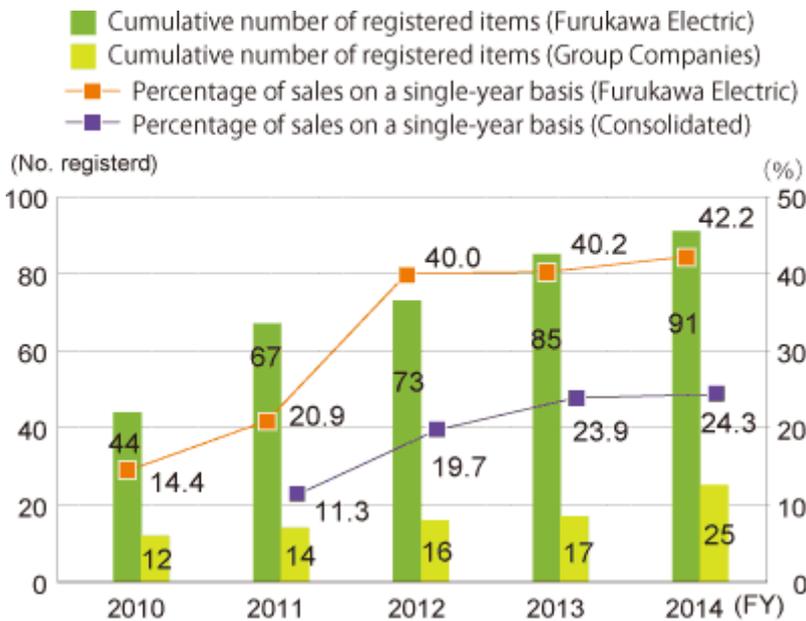
### Environmentally friendly product categories

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-depletive 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.
Resource 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.

## Expanding Environmentally Friendly Products

We are working to increase our overall percentage of environmentally friendly products. We set targets based on percentage of sales, and confirm our progress and success on this basis.

### Environmentally friendly products as a percentage of sales



## Environmental Performance Indicator “Visualization”

As a part of initiatives to visualize environmental performance indices, the Group promotes the visualization of CO<sub>2</sub> emissions using life cycle assessment (LCA).

Based on the consumption unit of CO<sub>2</sub> emissions established for each product by fiscal 2013, we have set a target to spread the initiative to the affiliated companies in fiscal 2014 and conducted an LCA calculation of major products at 12 of the 21 subject companies. We also deploy the results of these calculations toward the development of the Greenhouse Gas (GHG) Protocol <sup>(note 1)</sup>, as well as technical materials and sales promotion pamphlets, aiming to make use of this information for R&D on future environmentally friendly products.

(note 1) GHG Protocol: An international guidelines for the method of calculating corporate greenhouse gas emissions

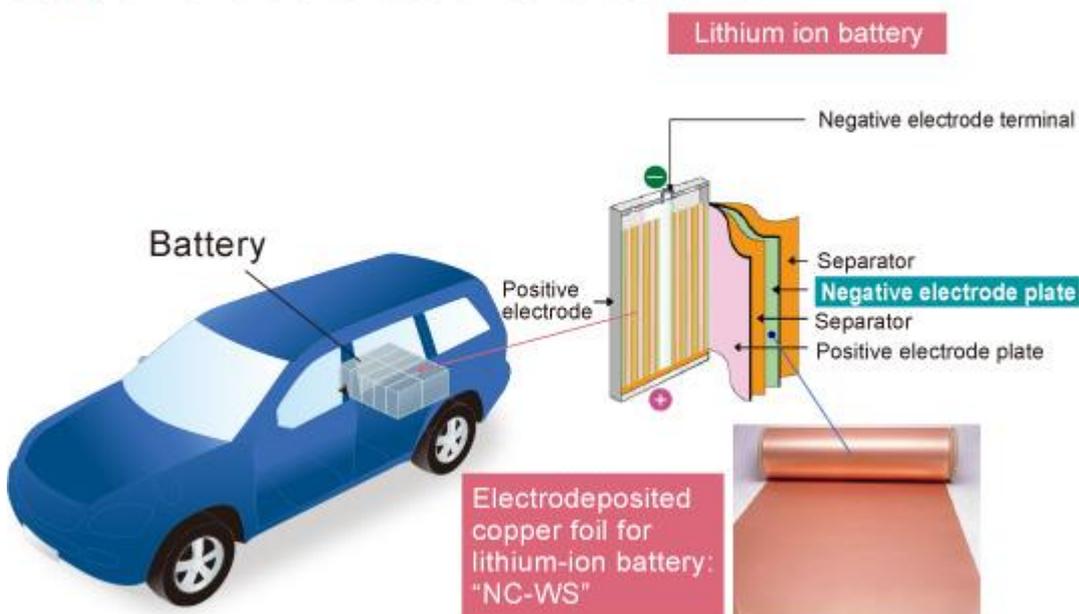
## Initiatives to Reduce CO<sub>2</sub> Emissions from Products during Use

Based on its track record in environmental performance indexing, we are working to visualize the reduction of CO<sub>2</sub> which is emitted when our products are at the stage of being used. According to the estimate for fiscal 2014, total emission volume in the domestic market of our mainstay products, copper foil, rectangular magnet wire and semiconductor laser, amounted to 40,000 tons - CO<sub>2</sub>/year. Going forward, we will try to expand sales of each product category and increase the number of contributing products, so that we can develop our activities to tackle environmental issues through our products.

### Reduction of CO<sub>2</sub> emissions through copper foil for electric car batteries

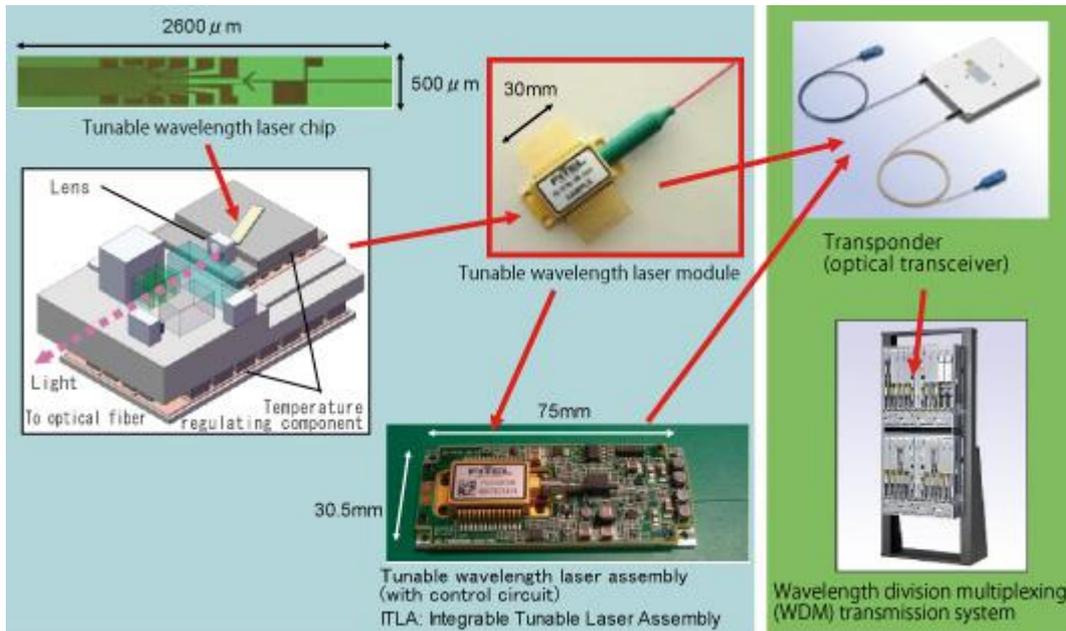
Copper foil for electrode material of lithium-ion batteries

## Copper foil's contribution to electric cars



CO<sub>2</sub> reduction of semiconductor lasers

Narrow-bandwidth-FBT (tunable wavelength laser)



CO<sub>2</sub> reduction of enameled extruded rectangular wire

Rectangular wire for HV motors



# Preventing Global Warming

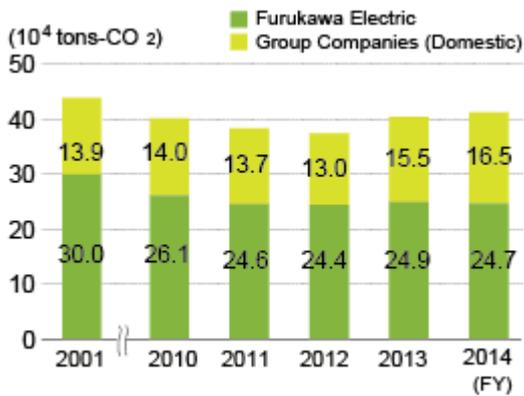
## Reducing CO<sub>2</sub> Emissions

### Initiatives at Works

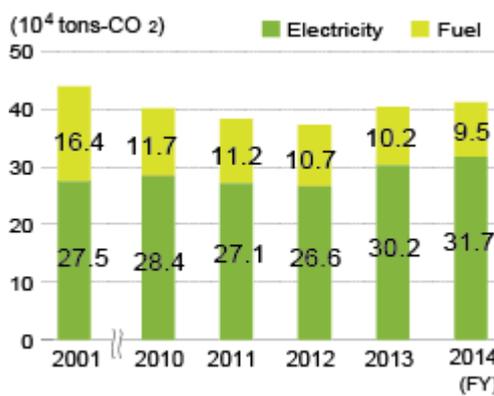
The majority of the Group's greenhouse gas emissions consist of CO<sub>2</sub> generated from electricity, fuel and other energy sources. As emissions from manufacturing processes account for a large proportion, we work on reducing emissions by increasing the efficiency of production processes, switching fuels, replacing equipment with more efficient alternatives, insulating hot areas and other measures.

Total CO<sub>2</sub> emissions of the Group companies in Japan for fiscal 2014 came to 413,000 tons - CO<sub>2</sub>/year, down only by 6% compared to fiscal 2001. We will continue with our efforts to reduce CO<sub>2</sub> emissions in the future.

### CO<sub>2</sub> emissions



### CO<sub>2</sub> emissions (fuel/electricity)

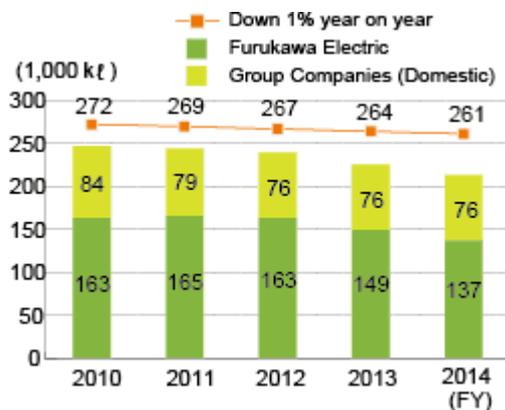


(note) The amount of power consumed is calculated using the emission factor of each power company.

(note) Assuming that hydroelectric power produces zero CO<sub>2</sub> emissions.

(note) UACJ Corporation was transferred to other related companies in fiscal 2014 and so the figures for past fiscal years have been retroactively adjusted.

### Energy consumption

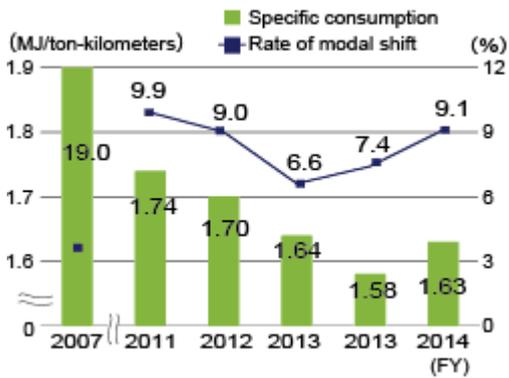


(note) UACJ Corporation was transferred to other related companies in fiscal 2014 and so the figures for past fiscal years have been retroactively adjusted.

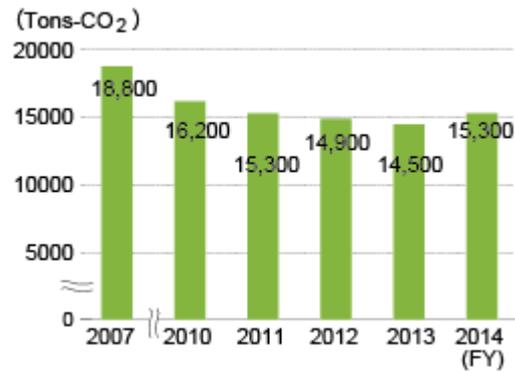
## Initiatives in Logistics

In fiscal 2014, total transportation volume for Furukawa Electric Group amounted to 237 million ton-kilometers, up 5.6% from the figure in fiscal 2013. Of this total, Furukawa Electric alone accounted for 137 million ton-kilometers, up 1.9% from fiscal 2013. As a result, CO<sub>2</sub> emissions increased 5.5% to 15,300 tons - CO<sub>2</sub> compared to fiscal 2013. The consumption unit was reduced by 13.6% from fiscal 2007, but it grew 3.7% compared to the most recent fiscal year, fiscal 2013. We will continue with initiatives to promote modal shift, increase loading rates and encourage joint shipping.

**Modal shift<sup>(note 1)</sup> and specific consumption (Furukawa Electric)**



**CO<sub>2</sub> emissions related to transportation (Furukawa Electric)**



(note 1) Modal shift rate: Percentage of total transportation that uses rail- or ship-based transportation.

## Reducing Waste

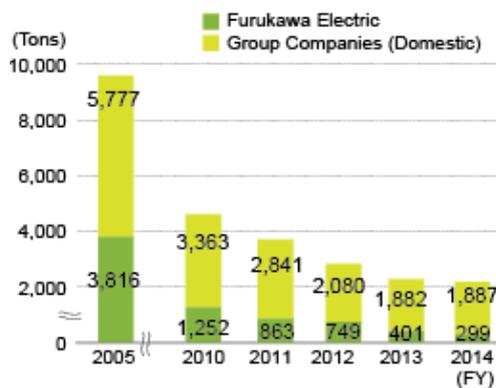
### Waste Reduction Initiatives

Furukawa Electric Group began taking action to reduce non-recyclable waste in 1993. Since fiscal 2002, we have conducted zero-emissions activities, defined as reducing the volume of direct landfill disposal to less than 1% of the total volume of industrial waste emitted.

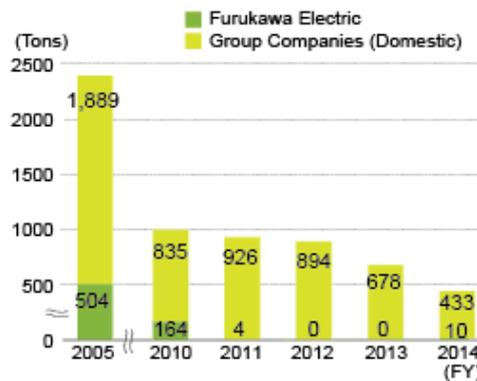
As a result of our efforts to meticulously sort and recycle waste into useful resources, the total amount of non-recyclable waste for the Group in Japan amounted to 2,186 tons in fiscal 2014, down 77% compared with fiscal 2005. In addition, the volume of direct landfill disposal of the Group companies in Japan amounted to 442 tons, down 82% from fiscal 2005.

Also, the recycling ratio (ratio of recycled volume to total waste volume) reached 95% (98.5% at affiliated companies and 98.4% at parent company) and exceeded the target of 94% in fiscal 2014.

#### Processing volume of non-recyclable waste



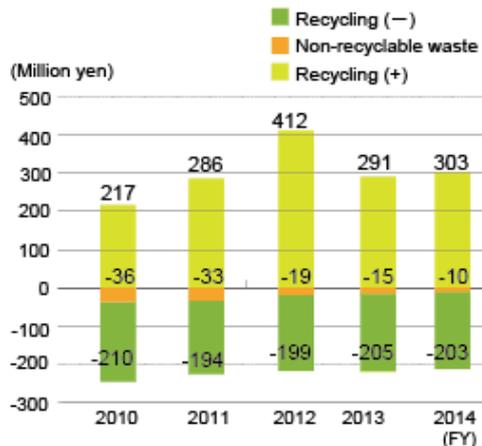
#### Direct landfill disposal



(note) UACJ Corporation was transferred to other related companies in fiscal 2014 and so the figures for past fiscal years have been retroactively adjusted.

(note) Beginning from fiscal 2014, Foam Kasei Co., Ltd., Furukawa Nikko Power Generation Inc. and Furukawa Life Service Inc. have been added.

#### Waste disposal costs (Furukawa Electric)

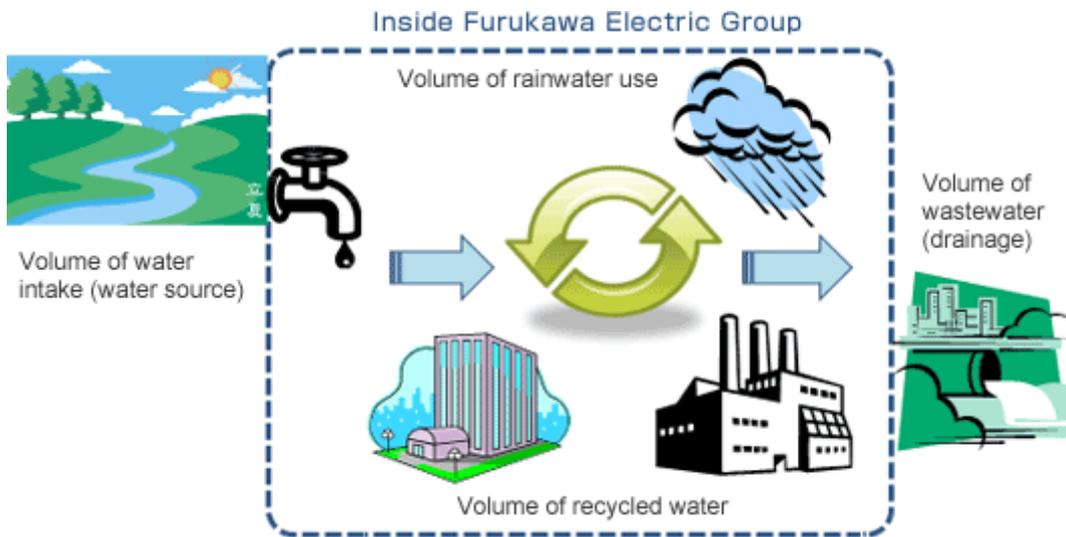


# Water Resources

## Effective utilization of water

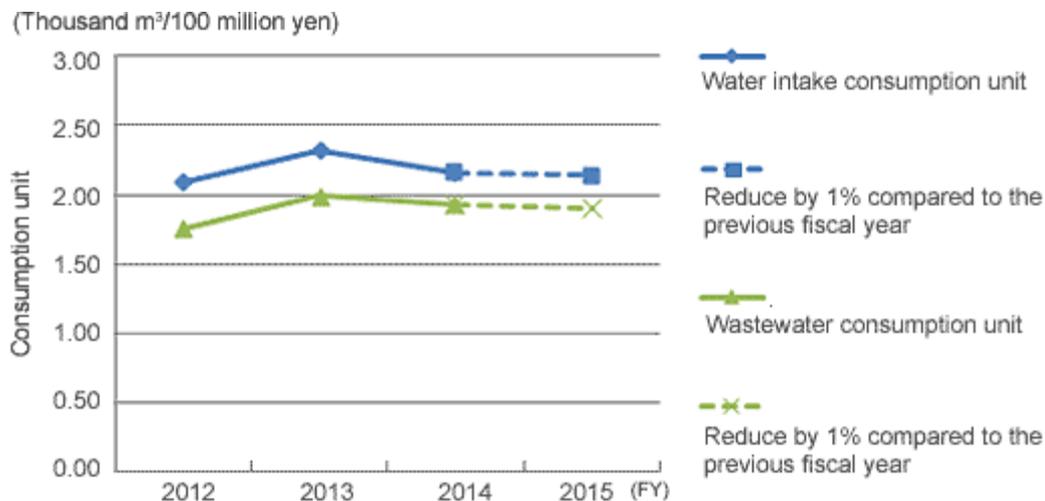
Furukawa Electric Group has been making efforts to utilize water effectively since fiscal 2014 by grasping the amount of water intake and wastewater and setting a consumption unit reduction target for fiscal 2015. Furthermore, we endeavor to save and recycle water while managing the water quality and volume of wastewater.

Toward the goal of effective use of water, we will be considering initiatives to slash the water consumption in every manufacturing process.



In fiscal 2014, we grasped the consumption unit of water intake and wastewater at each operating unit over the past three years.

### Consumption unit of water intake and wastewater



## Chemical Substance Management

### Green Activities

#### Response to Customer Requests

When Furukawa Electric Group receives a request from a customer for information concerning chemical substances in our products, it conducts a thorough environmental examination. We also monitor trends in laws and regulations covering the chemical substances contained in products and compile and update data as it becomes available, allowing us to respond promptly to customer requests. Furthermore, by collecting information from industrial organizations and conducting seminars, as well as participating in research groups, we can monitor environmental regulations and standards and social issues/items of concern. This enables us to incorporate customer needs in our environmental conservation targets.

#### Response to overseas regulations and management of chemical substances contained in products

Furukawa Electric Group establishes a management system for chemical substances contained in products for major operational bases and affiliated companies, strengthens the environmental product regulations and grasps the environmental risk that should be lowered, and implements measures depending on their importance. Each time a new SVHC (Substance of Very High Concern)<sup>(note 1)</sup> is added to the candidate list of an environmental product regulation named the EU REACH regulation, we investigate the status of its usage. In fiscal 2014, we conducted an investigation covering up to 144 substances included in the 10th SVHC in the REACH regulation.

(note 1) 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.

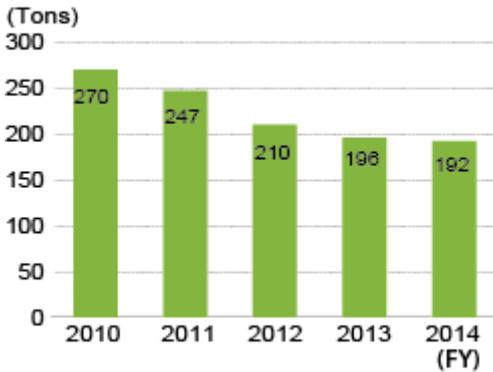
#### Expansion of Green Procurement (General-Purpose Products) to Group Companies

Furukawa Electric encourage the purchasing of OA equipment, office supplies and other items that conform to the Green Purchasing Law. In an effort to spread these activities within the Group, 18 affiliated companies designated conforming items in fiscal 2014 and purchased them. Also, items that will be used in our products are purchased adequately based on the Green Procurement Guidelines of our operational division, by evaluating the suppliers' system on the management of chemical substances contained in products and its management status as well as by confirming the data of chemical substances contained in products.

## Chemical Substance Management Activities

Furukawa Electric Group undertakes voluntary initiatives to reduce emissions of harmful chemical substances. In particular, we make every effort to actively reduce emissions of volatile organic compounds (VOC), one cause of photochemical smog. In fiscal 2014, we managed to reduce emissions of VOC compared to the previous fiscal year, although the reduction rate of 0.4% came below our year-on-year reduction target of 1%.

### Emissions of volatile organic compounds (Furukawa Electric)



(note) Volatile organic compounds are the 118 substances specified by The Japanese Electric Wire & Cable Makers' Association (January 2012 edition).

### Appropriate Management of Chemical Substances

At Furukawa Electric Group, we confirm the properties and applicable laws and regulations regarding all chemical substances we use during the manufacturing process on their Safety Data Sheets (SDSs) and administrate them. We also monitor the usage volume of chemical substances listed in the PRTR Law<sup>(note 2)</sup>.

(note 2) Law Concerning Reporting, Etc. of Releases to the Environment of Specific Chemical Substances and Promoting Improvements in Their Management

<b>Furukawa Electric Group (Japan)</b>
--

(Unit: Tons)

Substance No.	Substance	Volume handled	Volume released	Volume transferred	Volume contained in products/ disappeared by combustion
1	Zinc and its compounds	6.6	0.1	0.7	5.8
31	Antimony and its compounds	381.0	0.0	7.9	373.1
53	Ethylbenzene	6.9	0.3	0.3	6.3
71	Ferric chlorides	42.5	3.7	17.7	21.1
75	Cadmium and its compounds	91.5	0.0	0.0	91.5
80	Xylene	23.9	3.4	3.7	16.8
82	Silver and its water-soluble compounds	21.4	0.0	0.0	21.4
86	Cresol	173.4	0.2	8.4	164.8
87	Chromium and trivalent chromium compounds	12.1	0.0	0.1	12.0
88	Hexavalent chromium compounds	5.1	0.0	4.0	1.1
132	Cobalt and its compounds	3.3	0.0	0.1	3.2
144	Inorganic cyanide compounds (Excluding complex salt and cyanate)	14.9	0.0	1.8	13.1
213	N,N-dimethylacetamide	231.8	0.1	11.6	220.0
232	N,N-dimethylformamide	25.2	0.1	1.3	23.8
239	Organotin compound	1.0	0.0	0.0	1.0
255	Decabromodiphenyl ether	333.2	0.0	15.4	317.7
272	Copper salts (water-soluble)	14,304.20	0.3	46.4	14,257.50
296	1,2,4-trimethylbenzene	24.0	0.1	0.5	23.4
297	1,3,5-trimethylbenzene	1.6	0.2	0.1	1.3
300	Toluene	303.9	190.4	44.3	69.3
304	Lead	8,617.4	0.1	0.3	8,617.0
305	Lead compounds	26,564.2	0.1	2.0	26,562.2
308	Nickel	571.0	0.0	0.5	570.5
309	Nickel compounds	81.7	0.0	11.0	70.6
332	Arsenic and its inorganic compounds	14.0	0.0	0.0	13.9
333	Hydrazine	8.1	0.0	0.0	8.1
349	Phenol	127.6	0.1	6.2	121.3
355	Bis (2-ethylhexyl) phthalate	343.6	0.0	0.2	343.5
374	Hydrogen fluoride and its water-soluble compounds	5.1	0.0	3.2	1.8
384	N-propyl bromide	2.6	2.6	0.0	0.0
392	N-hexane	1.4	0.4	0.4	0.6
405	Boron and its compounds	4.2	1.3	0.7	2.2
412	Manganese and its compounds	7.5	0.0	0.0	7.5
413	Phthalic anhydride	2.0	0.0	0.1	1.9
438	Methylnaphthalene	69.2	0.4	0.0	68.9
453	Molybdenum and its compounds	2.8	0.0	0.4	2.4
<b>Total</b>		<b>52,429.8</b>	<b>204.0</b>	<b>189.2</b>	<b>52,036.7</b>

(note) This list is target for substances with a transaction volume of 1 tons or more (0.5 tons or more for Class 1 Designated Chemical Substances) for the entire Group.

<b>Furukawa Electric</b>
--------------------------

(Unit: Tons)

Substance No.	Substance	Volume handled	Volume released	Volume transferred	Volume contained in products/ disappeared by combustion
1	Zinc and its compounds	6.6	0.1	0.7	5.8
31	Antimony and its compounds	127.0	0.0	7.8	119.3
71	Ferric chlorides	13.1	3.7	0.3	9.1
80	Xylene	9.9	2.4	3.2	4.3
82	Silver and its water-soluble compounds	18.5	0.0	0.0	18.5
88	Hexavalent chromium compounds	5.1	0.0	4.0	1.1
144	Inorganic cyanide compounds (Excluding complex salt and cyanate)	9.4	0.0	0.0	9.4
239	Organotin compound	1.0	0.0	0.0	1.0
255	Decabromodiphenyl ether	236.6	0.0	15.2	221.4
272	Copper salts (water-soluble) (Excluding complex salt)	14,296.1	0.3	42.3	14,253.4
296	1,2,4-trimethylbenzene	24.0	0.1	0.5	23.4
300	Toluene	196.8	84.1	44.2	68.6
305	Lead compounds	1.4	0.0	0.0	1.4
308	Nickel	1.8	0.0	0.0	1.8
309	Nickel compounds	21.6	0.0	1.5	20.1
332	Arsenic and its inorganic compounds	0.5	0.0	0.0	0.5
374	Hydrogen fluoride and its water-soluble compounds	3.2	0.0	3.1	0.0
405	Boron and its compounds	3.0	1.3	0.1	1.7
413	Phthalic anhydride	2.0	0.0	0.1	1.9
438	Methylnaphthalene	63.9	0.3	0.0	63.5
453	Molybdenum and its compounds	2.8	0.0	0.4	2.4
<b>Total</b>		<b>15,044.3</b>	<b>92.3</b>	<b>123.5</b>	<b>14,828.4</b>

(note) This list is target for substances with a transaction volume of 1 tons or more (0.5 tons or more for Class 1 Designated Chemical Substances) by the Company's works.

## Environmental Risk Management

### Preventing Soil and Groundwater Pollution

Furukawa Electric Group conducts regular inspections of facilities and equipment that handle specific toxic substances to prevent the pollution of soil and groundwater. We reduce the risk of pollution through measures to prevent leaks of specific toxic substances and underground seepage, as well as through ongoing efforts to switch to substitute substances.

We began proper disposal of the slag stored in the Oyama area (a plant site of the former Furukawa Magnesium Co., Ltd.) and conducted soil remediation where underground soil was contaminated. Work on part of the premises is now complete.

#### PCB Management

Furukawa Electric Group monitors the amount of high-concentration PCB-containing equipment at each of our Works and affiliate company sites, and conducts proper storage and management. Based on the said information, we have been registered with the Japan Environmental Safety Corporation and started disposing of them step by step in accordance with the plan. In addition, the Company conducts analysis on equipment that may contain a small quantity of PCB substances in order to dispose of them systematically in the future.

#### PCB amounts contained in equipment As of March 31, 2014

Works	In storage	In use	Total
Chiba Works	110	0	110
Nikko Works	286	60	346
Hiratsuka Works	219	8	227
Mie Works	83	10	93
Yokohama Works	19	1	20
Copper Tube Division	34	12	46
Copper Foil Division	16	48	64
<b>Total</b>	<b>767</b>	<b>139</b>	<b>906</b>

### Response to Asbestos Concerns

Although Furukawa Electric Group does not currently produce or import any products containing asbestos, some of the industrial-use products we made and sold in the past contained asbestos. These include electrical wiring for ships, and fire-resistant products for constructing telecommunications and electrical power facilities, etc.

In addition, 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 all items which are currently not dispersing asbestos with items not containing it. For other items, we conduct regular inspections and introduce alternates during facility renewals.

## **Compliance with Environmental Laws and Other Regulations**

Furukawa Electric Group regularly confirms environmental laws and other regulations to determine items requiring compliance. We ensure compliance in a number of ways, such as by conducting on-site patrols to check the state of compliance. We follow official journals and other sources of information to stay updated on revisions to environmental legislation and ensure that our response is thorough.

We maintain voluntary control limits and manage operations appropriately to ensure compliance with the Air Pollution Control Law and the Water Pollution Control Law.

In fiscal 2014, we continued to conduct an environmental check-up in our domestic affiliated companies by performing the said check-up at seven operational units of the Company while responding to the revised clean water act.

We also conduct annual checks for conceivable, clear environmental impact to prevent environmental accidents or prevent widespread impact in the event of an accident.

According to our survey on the status of our regulatory compliance, we were not in material violation of any regulations.

## Biodiversity Conservation

### Biodiversity Conservation Initiatives

In April 2011, we began providing information on our website about the biodiversity efforts we are conducting as part of our Basic Environmental Policy. With a view to specifying the Group's biodiversity efforts, we compiled significant targets in fiscal 2014 into the comprehensive guideline of the Furukawa Electric Group concerning biodiversity. We did this in recognition of the fact that our business, products and services are the result of biodiversity, and that our operation has an impact, whether positive or negative, on eco-systems.

Also, following a major organizational reform in fiscal 2014, we integrated our biodiversity conservation system into the Environmental Committee. Going forward, we will be modeling our regional activities centering on land utilization and procurement under the new structure at each operational unit, in order to spread the activities horizontally within our Group. We will also be using the "Symbiosis business unit promotion guideline" compiled by JBIB <sup>(note 1)</sup>, an initiative in which we participate.

(note 1) JBIB : Japan Business Initiative for Biodiversity. Founded in 2008, the JBIB is a joint effort by Japanese companies to act on behalf of biodiversity preservation.

### Furukawa Electric Group Biodiversity Conservation Guidelines

1. Evaluate the effects that our business activities have on the ecosystem, and minimize the harmful effects while maximizing the beneficial ones
2. To sustainably use resources and conserve biodiversity, consider more than ever the need to carry out measures against climate change, conserve resources, recycle and reduce environmentally hazardous substances
3. Carry out activities in collaboration with local communities to conserve biodiversity