



# Furukawa Electric Group Sustainability Report **2019**



## Editorial Policy

This “Furukawa Electric Group Sustainability Report 2019” aims to inform all stakeholders including shareholders of “Financial Information” such as management performance and strategy as well as “Non-financial Information” such as Environment, Social and Governance (ESG)-related activities. We make efforts to edit the report that is easy for our stakeholders to understand the various measures and activities of Furukawa Electric Group.

### Scope of This Report

#### Period Covered

Fiscal 2018, from April 1, 2018 to March 31, 2019

(note) Includes selected information on past initiatives and activities during fiscal 2019.

#### Organizations Covered

This report covers Furukawa Electric Co., Ltd. and group companies in Japan and overseas. Where activities are limited to specific regions or companies, this fact has been clearly indicated in the reporting.

#### Publication Timeframe

Publication date: September 30, 2019

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#### Editing and Publication

Corporate Sustainability Office, Administration & CSR Division, Furukawa Electric Co., Ltd.  
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Tokyo 100-8322, Japan

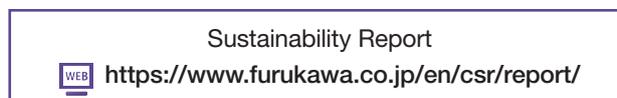
### Accuracy of the Data Disclosed in This Report

In order to maintain accuracy in data disclosure, the information provided in this report has been vetted by the divisions in charge of the relevant information, the Investor & Public Relations Department, the CSR Department and the Corporate Sustainability Office, which are in charge of editing this report.

### Information Disclosure System

Furukawa Electric is fully aware that the timely and appropriate disclosure of corporate information to investors is essential to a healthy stock market. We take a serious approach to providing timely and appropriate corporate information to investors, including through the development of internal systems that allow us to disclose rapid, accurate and fair corporate information in a way that always keeps investors' perspective in mind. Moreover, in order to increase the understanding of all stakeholders in respect to our company, we try to provide information through a variety of media, including non-financial information.

Non-financial	Financial
<ul style="list-style-type: none"> <li>- CSR website</li> <li>- Sustainability reports</li> <li>- Corporate governance reports</li> </ul>	<ul style="list-style-type: none"> <li>- IR website</li> <li>- Financial statements</li> <li>- Securities reports/Quarterly reports</li> <li>- Summary of accounts, etc.</li> </ul>



## History of Furukawa Electric's CSR Activity and This Report

1972	Companywide Rules for Pollution Prevention formulated	2008	Furukawa Electric Basic Environmental Policy formulated Furukawa Electric Group Basic Policy on Social Contribution Activities formulated Furukawa Electric Basic Policy on Pandemic Influenza Preparedness formulated Compliance pledge introduced e-Friendly mark (environmentally harmonious product) certification system started
1974	Environmental Control Department and Energy Conservation Team established	2009	Furukawa Electric Group Green Procurement Activity Guidelines published Basic Policy on BCM (Business Continuity Management) formulated Compliance awareness survey covering all employees conducted A CSR award newly established as a part of the Outstanding Affiliated Company Awards
1989	Team for Reduction in Use of Specified CFCs established	2010	CSR Deployment Guideline for Business Partners issued Compliance awareness surveys for affiliated companies conducted
1992	Anti-Monopoly Act Guidelines issued	2011	Information security and personal information protection months introduced Furukawa Electric Group Basic Policy on CSR revised Furukawa Electric Group CSR Code of Conduct revised, and Furukawa Electric Group Action Guidelines accordingly eliminated Competition Laws Compliance Guide published
1993	Basic Framework for Protecting the Global Environment formulated	2012	Furukawa Electric Group Anti-Bribery Statement and Bribery Prevention Guide formulated Report name revised to Sustainability Report and issued
1996	Use of specified CFCs and trichloroethane discontinued	2013	Administration & CSR Division inaugurated
1997	Team for Promotion of Reduction in Industrial Waste established	2014	Jointly conducted employee awareness surveys with Group companies in Japan Published 2nd edition of competition law compliance guide (Japanese, English and Chinese common edition)
1998	Furukawa Electric Basic Environmental Policy formulated Companywide Regulations for Pollution Prevention revised to create the Companywide Regulations for Environmental Management Acquisition of ISO 14001 certification commenced	2015	Visiting elementary school to give classes
2000	First “Environmental Report” published, the predecessor of this report	2016	Established contact for internal reporting system for overseas Group companies Jointly conducted employee awareness surveys with Group companies in Japan
2001	Environmental accounting started	2017	Established “Furukawa Electric CSIRT” as a measure against cyber security.
2002	Anti-Monopoly Law manual published	2019	Established “Corporate Sustainability Office”, in Administration & CSR Division
2003	Executive Officer System introduced Furukawa Electric Basic Environmental Policy revised		
2004	Company system and chief officer system introduced Furukawa Electric Group Action Guidelines formulated “Furukawa New Leaf” established as a special subsidiary offering employment to people with disabilities		
2005	Internal reporting system introduced and internal and external reporting desks established Compliance Handbook published		
2006	Report published under the revised title “Environmental and Social Report”		
2007	CSR Division established Chief Social Responsibility Officer (CSRO) appointed Corporate philosophy and corporate message of the Furukawa Electric Group formulated Report published under the revised title “CSR Report”		

# Furukawa Electric Group Sustainability Report 2019

## Contents

05	Furukawa Electric Group Philosophy
06	At a Glance, Furukawa Electric Group
08	FY 2018 Topics
10	Financial Highlights / Non-financial Highlights
12	Innovation History of Furukawa Electric Group
14	Steps of Furukawa Electric Group toward 2030
16	Top Message President Keiichi Kobayashi
20	CFO Message
22	Mid-term Management Plan (FY2016 to FY2020) Furukawa G Plan 2020
24	Business Overview
28	Special Issue 1 State-of-the-Art Analysis Technology that Has Supported and Accelerated Technology Innovation within Furukawa Electric Group
30	Special Issue 2 Aiming to Be a Creative and Very Vibrant Corporate Group by Taking Advantages of the Diverse Human Resources



### About the Cover

Seven photographs, which are aligned lengthwise on the cover, image “a sustainable society” expressed in our Corporate Philosophy. The illustration of the background shows “information and connection”. It is an example of the stage where we do business actively.

## Governance

32	Corporate Governance
36	Directors and Audit & Supervisory Board Members
38	Interactions of the Stakeholders with Furukawa Electric Group
40	CSR Management
42	Risk Management
44	Compliance

## Social

46	Relations with Our Customers
48	Relations with Business Partners
50	Relations with Shareholders
52	Relations with Employees
58	Relations with Communities

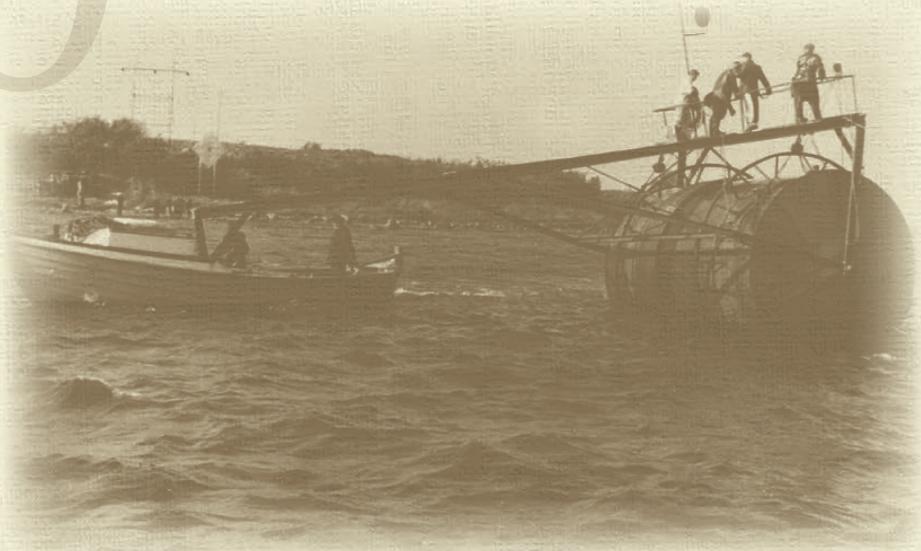
## Environment

60	Environmental Management / Material Flow / Targets and Performance of Environmental Conservation Activities / Environmentally Friendly Products / Climate change measures / Reducing Waste / Water Resources / Chemical Substance Management / Environmental Risk Management / Biodiversity Conservation
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70	Non-financial Data
72	11-Year Financial and Non-Financial Data
74	Consolidated Financial Statements
80	Company Profile and Stock / Dividends Information
82	Environmental Certifications and External Evaluations
83	List of all applicable companies

20

世紀  
century



Drawing on more than a century...



21  
世紀  
century

# Furukawa Electric Group Philosophy

## CORPORATE PHILOSOPHY

Drawing on more than a century of expertise in the development and fabrication of advanced materials, we will contribute to the realization of a sustainable society through continuous technological innovation.

## MANAGEMENT PHILOSOPHY

With an eye to the future, the Furukawa Electric Group management team pledges to:

- Live up to the expectations and trust invested in us by society, with fairness and integrity.
- Apply the sum total of our expertise to satisfy our customers and grow with them.
- Continuously strive to achieve world-class technological innovation, and transform ourselves in every area of endeavor.
- Nurture human resources at every level, so that we can become a more diverse and creative organization.

## Core Value



## Furukawa Electric Group, Vision 2030

In order to build a sustainable world and make people's life safe, peaceful and rewarding, Furukawa Electric Group will create solutions for the new generation of global infrastructure combining information, energy and mobility.



We established “**Furukawa Electric Group Philosophy**” in 2007. In order to change into a company that responds to drastic changes in the business environment, we unified the “Group Credo” into “Core Value”, and established our new group vision toward 2030 in May 2019. Also, we have systemized our Group Philosophy, Core Value and Vision 2030 as the following.

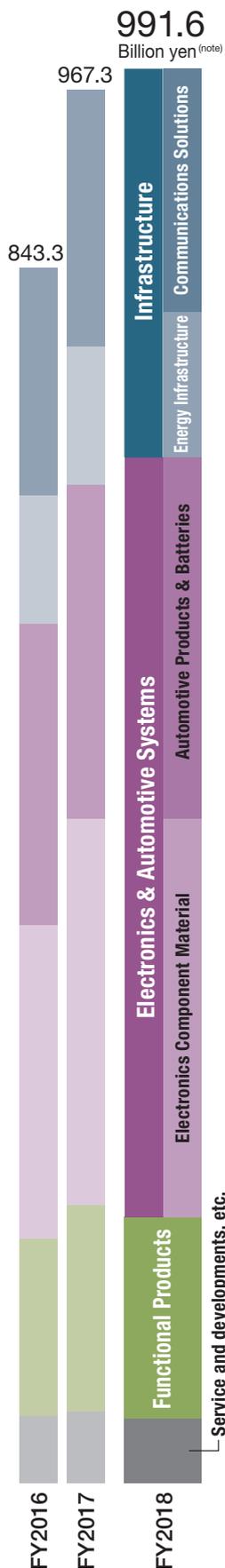


We have set the 5 values, such as “Integrity”, “Innovation”, “Addressing Reality”, “Ownership and Speed” and “Collaboration”, that we wish to particularly emphasize and enhance even further, for the achievement of Group Philosophy and the sustainable growth of Furukawa Electric Group, as “**Core Value**”.

We established “**Furukawa Electric Group, Vision 2030**” that clarified the time frame and business domains. We incorporate it into the next mid-term management plan, and aim to become a company that has a presence.

## FY2018 Net Sales and the Percentage by Segment, Main Products and Services

April 1 2018 to March 31, 2019



### Infrastructure 288.0 Billion yen 27.5%

Segment	Value (Billion yen)	Percentage
Communications Solutions	179.9	17%
Energy Infrastructure	108.1	10%



Optical fiber



Optical fiber cables



Optical devices



Network routers



Ultra-high and high voltage underground transmission cables and installation



Submarine transmission cables and installation



Low to medium voltage power cables



Power cable accessories

### Electronics & Automotive Systems 562.7 Billion yen 53.7%

Segment	Value (Billion yen)	Percentage
Automotive Products & Batteries	267.3	28%
Electronics Component Material	295.4	26%



Wire harness



Steering roll connector (SRC)



Batteries for automotive and industrial use



Peripheral monitoring radar



Copper and Aluminum wire



Copper and Copper alloy products, plating products and products for the electronics parts



Magnet wire



Copper tube

### Functional Products 149.3 Billion yen 14.3%



Tape for semiconductor process



Electrolytic copper foil



Green trough



Aluminum blanks for HDD



Thermal management solution & products

### Service and developments, etc. 47.6 Billion yen 4.5%

Logistics, real-estate leasing, Superconducting products, etc.



Hydroelectric power

(note) Figures excludes intersegment transactions.

Group employees in total

**52,215** people

(As of March 31, 2019)

Group companies in total

**121** companies

(As of March 31, 2019)

Consolidated net sales

**991.6** Billion yen

(Years ended March 31, 2019)

North and Central America

**9,518** people

**12** companies

**72.7** Billion yen

Japan

**10,902** people

**40** companies

**521.3** Billion yen

China

**5,546** people

**19** companies

**94.0** Billion yen

South America, Europe and others

**2,692** people

**16** companies

**90.4** Billion yen

Asia

(except Japan and China)

**23,557** people

**34** 社

**213.3** Billion yen

 Group employees in total As of March 31, 2019

 Group companies in total As of March 31, 2019

 Net sales Years ended March 31, 2019  
(note) Net sales values by regions are calculated by the customers' locations.

April to June

July to September

October to December

April

Communications Solutions

Fiber laser welding technology: Furukawa Electric Develops Gapless Welding Technology for Zinc-plated Steel Plates for Automobiles

Technology to help reduce manufacturing costs and increase performance for automobile bodies

May

Communications Solutions

New Optical Fiber Cable Plant Established in Morocco

Furukawa Electric Further Strengthens Business Activities in the EMEA Market

Energy Infrastructure

Furukawa Electric Develops the New Light, Simple, and Flexible Rakuraku Cable System

New products to help improve working efficiency during low voltage cable construction and streamline related work



Research

“Furukawa Electric Accelerator 2018,” an Open Innovation Program by Furukawa Electric and Creww, Starts May 14

June

Functional Products

Furukawa Electric recognized for excellence by Texas Instruments, as a semiconductor process-tape supplier

Research

Furukawa Electric Receives “Top 100 Global Innovators 2017” Award



Left: Satoshi Sakurai, IP Solutions Senior Director, Clarivate Analytics (Japan) Co., Ltd.

Right: Tetsuro Ijichi, General Manager, Research & Development Division of Furukawa Electric Co., Ltd.

August

Management



As part of the initiatives to prevent global warming and with the aim of reducing CO<sub>2</sub> emissions, install solar power generation equipment

By using of renewable energy, green house gas, CO<sub>2</sub> emission was reduced.

September

Electronics Component Material



Furukawa Electric to Increase Production of “GOFC” Oxygen-free Copper Strips with Excellent Thermal Resistance

Providing customers with value through excellent conductivity and thermal resistance

Research

Research Center in Silicon Valley Established

Furukawa Electric Further Strengthens Its Open Innovation and Global Industrial-Academic Collaboration



Management



Employment of persons with disabilities: Received the Shiga Prefecture Governor’s award, “Challenged WORK Promoting Office”.

2018 Shiga Prefecture Governor’s award for the employment of persons with disabilities

Functional Products

The mat for Karate competitions “ProGame” was certified by the Japan Karatedo Federation.



The mat for the Karate competitions. “ProGame WKF certified mat”

October

Communications Solutions

Launched FITELnet F2500, the most suitable products for the high-performance and high-reliability networks

Adequate product for the high performance and high reliability required to the data center, the cloud and the large-scale corporate networks



Automotive Products & Batteries

Developed the “Peripheral monitoring radar” for the next generation vehicles, equipped with the world top level detection performance

A large forward step to the achievement of the future automatic driving system



November

Communications Solutions

Developed the “Reverse driving detection system” using the quasi-millimeter wave radar

The stable detection performance in various outdoor environments was achieved

December

Communications Solutions

Fiber laser welding technology: Succeeded in laser welding of 50 sheets of copper foil for the lithium-ion batteries

Contributes to the larger capacity lithium-ion battery

Communications Solutions

Furukawa is selected to provide FTTH network in Mexico

Low friction optical drop cables with connector



Functional Products



Sales Launched for a New Power Semiconductor Cooling Device using a newly developed joining technology that is free of environment



Based on the mid-term plan “Furukawa G Plan 2020”, we have been working on to strengthening the businesses mainly infrastructure (Communications Solutions and Energy Infrastructure) and automotive segments.

## FY 2019

### January to March

### April and later

#### January

##### Research

#### Participated in the “Yokohama Innovators Community” Sponsored by Yokohama City

To solve the social issues through the collaboration with the participating universities and companies



January 7th the “New year Yokohama Innovators Festival in Kannai”

#### February

##### Energy Infrastructure

#### Acquired UL Verified Mark for the first time as the cable fire spread prevention product

##### Management

#### Selected as a brand of the 2019 Health and Productivity Stock Selection program

Selected as the company which takes strategic actions for employees' health maintenance



February 21, 2019

Selected Company Presentations

Left: Yoshihiro Seki, State Minister of Economy, Trade and Industry

Right: Ken Maki, General Manager, Strategy Division of Furukawa Electric Co., Ltd.

#### March

##### Communications Solutions

#### Succeeded in a 2,009km of transmission at 715 terra bits/second using the extended wavelength band and the 19 cores bundled optical amplifier

Expected to reduce power consumption and provide space reduction, while achieving both the large capacity and the long distance transmission

#### April

##### Research

#### Furukawa Electric Awarded “Top 100 Global Innovators 2018-19”

Selected in the Top 100 Global Innovative Companies and Research Organizations in Strategic Intellectual Property Activities



Right: Keiko Tanahashi, Vice President, Clarivate Analytics (Japan) Co., Ltd.

Left: Tetsuro Ijichi, General Manager, Research & Development Division of Furukawa Electric Co., Ltd.

#### May

##### Management

#### Notice Regarding Partial Revision of Performance-Linked Stock Remuneration System

##### Functional Products

#### Announcing the Development of Technology to Regenerate Single-use Plastics into High Strength Reinforced Plastics

A New Solution to the Global Plastic waste crisis



#### June

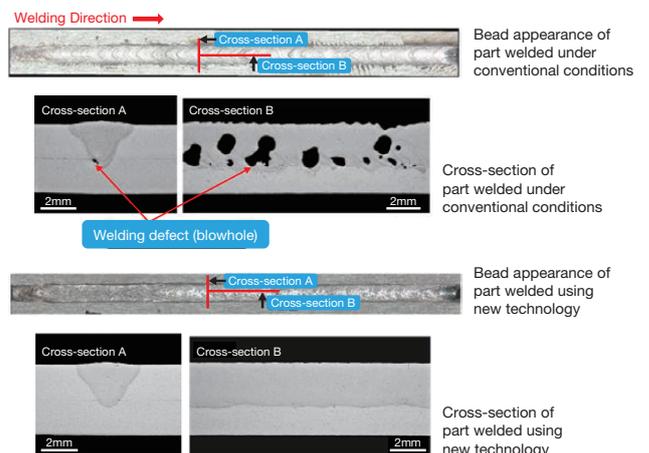
##### Energy Infrastructure

#### Award of contract for development of high voltage dynamic export submarine cable for floating offshore wind power plants

##### Communications Solutions

#### Fiber laser welding technology : Realizing Higher Quality Welding in Aluminum Materials Used for Automobiles

Contributing to Making Automobile Bodies Lighter and Improving Fuel Efficiency

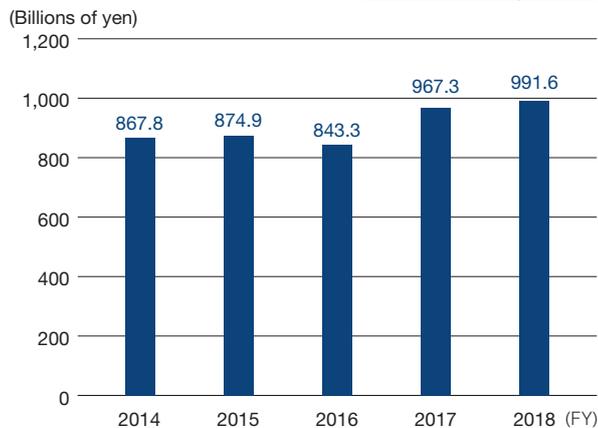


Please visit our web site for more details. → <https://www.furukawa.co.jp/en/release/>

# Financial Highlights

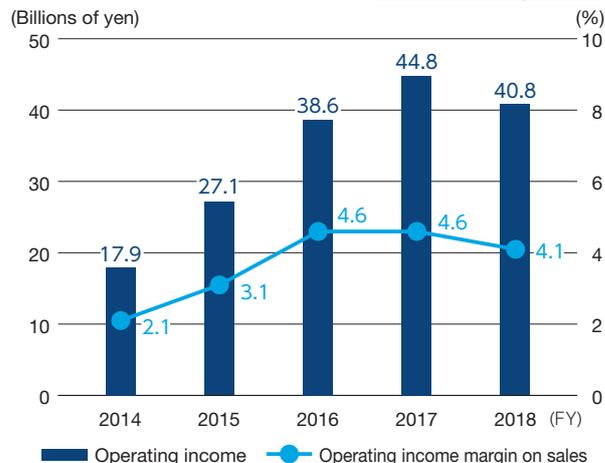
## Net sales

991.6 Billion yen



## Operating income / Operating income margin on sales

40.8 Billion yen



## Net income attributable to owners of the parent company

29.1 Billion yen

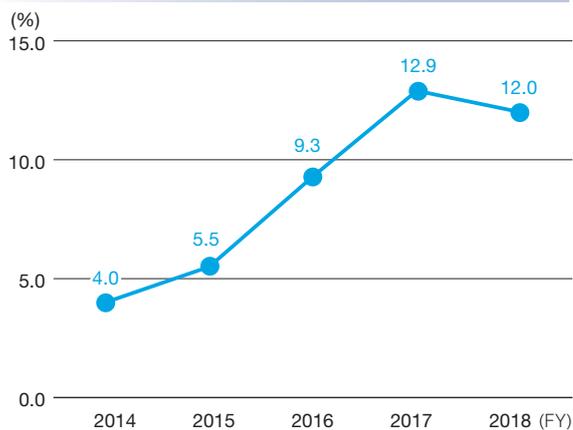


■ Net income attributable to owners of the parent company ● Net income per share (EPS) \*

\*We changed the number of shares in a unit of the company's ordinary shares from 1,000 shares to 100 shares with an effective date of October 1, 2016. Assuming that similar stock consolidation took place, we have calculated figures of EPS in FY2014 and FY2015.

## Return on equity (ROE)

12.0%



## Return on operating assets

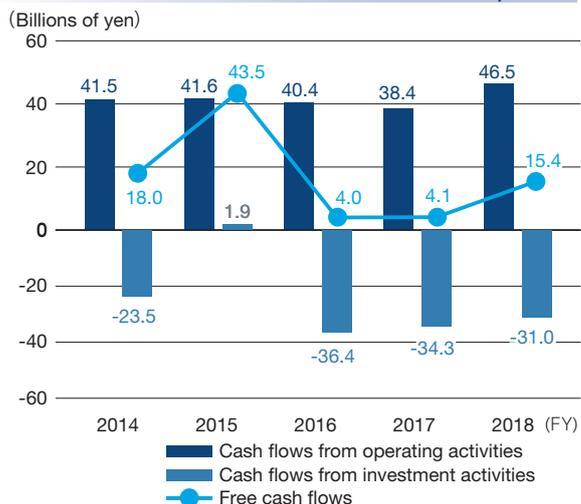
11.2%



Return on operating assets: Operating income / Operating assets  
(Operating assets: Inventories + Tangible and Intangible Fixed Assets)

## Free cash flows

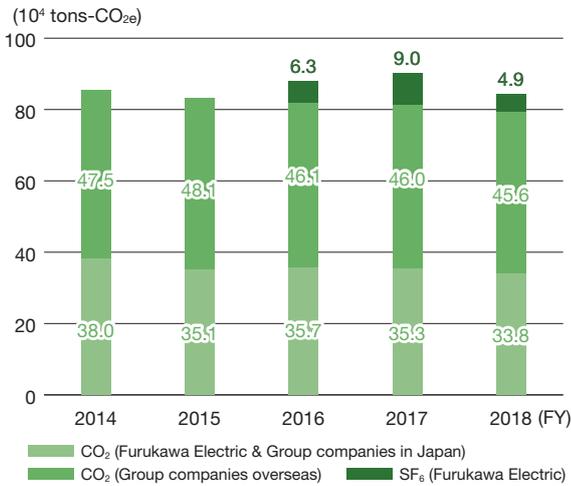
15.4 Billion yen



# Non-financial Highlights

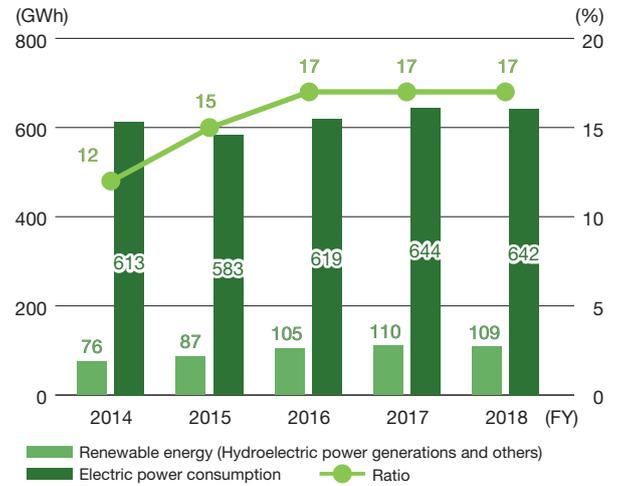
## Greenhouse gas emissions

84.3 × 10<sup>4</sup> tons



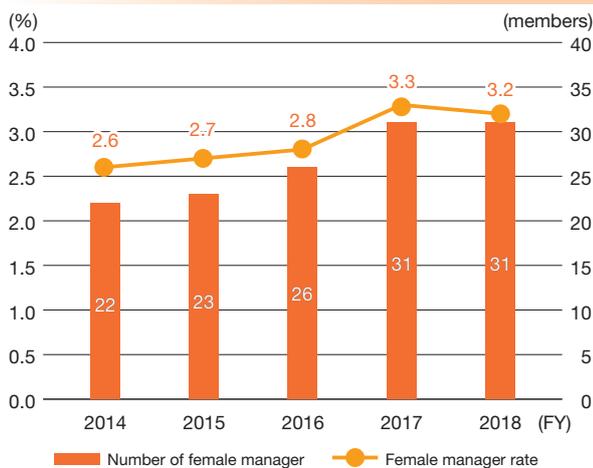
## Renewable energy ratio (domestic group)

17%



## Female manager rate

3.2%



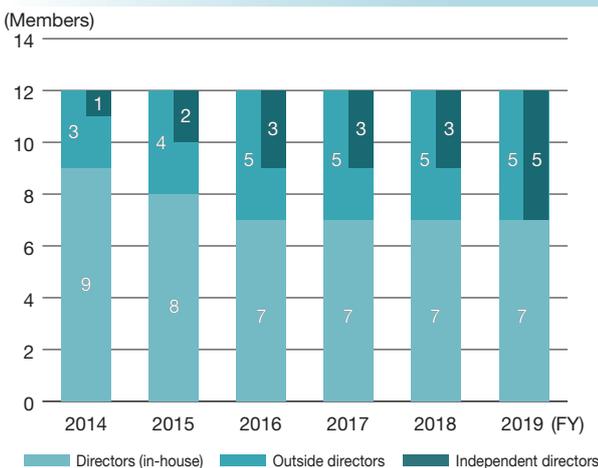
## Employee turnover rate

1.2%



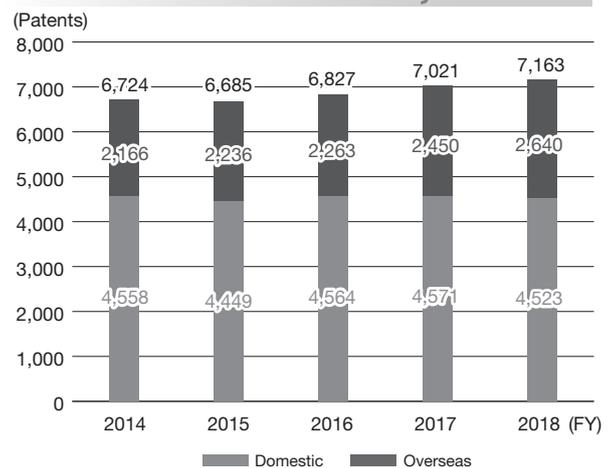
## Number of outside directors

5



## Number of patent rights

7,163



# Innovation History of Furukawa Electric Group

1884 ~

## Foundation & Dawning of a New Era

The origins of our company can be traced back to 1884, when Ichibei Furukawa first smelted copper in Honjo, Tokyo and Yamada Cable Works began manufacturing electrical cables in Takashima-cho, Yokohama.



Opened Honjo Copper Smeltery and Yamada Cable Works  
Founded as manufacturers of wrought copper products and electric cable



Started manufacturing electric copper wires



Laid the world's first non-loaded carrier submarine cable in the Tsushima Strait



Developed a fully automatic high-precision six-high rolling mill

1900 ~

## Helping to Establish Japan's Social Infrastructure

Catering to demand for electricity and communications in the then undeveloped Japan, Furukawa Electric expanded production to include various rubber and cotton-covered wires, and in 1915 manufactured the nation's first submarine electric cable. The company continued to support the establishment of Japan's social infrastructure with its global quality technical capacity, such as by installing an antenna on Tokyo Tower, the country's largest radio tower at the time.

1884

1889

1897

1915

1937

1958

1964

1971

Started Japan's first electrodeposit copper trial operations



Manufactured Japan's first submarine electric cable



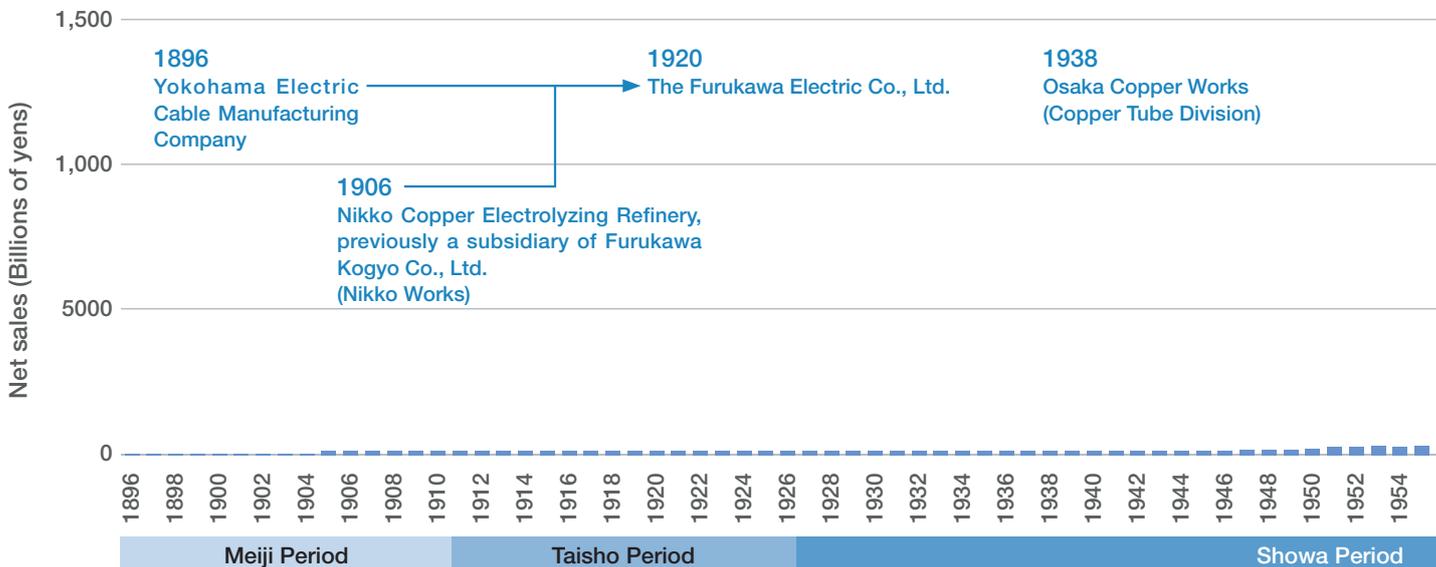
Installed an antenna and feed line on Tokyo Tower



Installed a communications network in Bangkok, Thailand



## Trends in the net sales



(note) In the years shown in blue of the above graph, Furukawa Electric, its predecessor company and its subsidiary were established, and the production locations of Furukawa Electric were opened. The current production locations of Furukawa Electric are shown in parentheses.

## 1960 ~

### Expanding Overseas

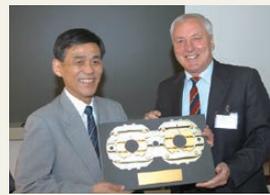
From this period, Furukawa Electric launched its full-scale efforts to enter the global market with the hope of spreading its technical strength around the world. While building up a track record in the Middle East, Southeast Asia, and elsewhere, it established manufacturing plants from Southeast Asia all the way to Brazil, laying the foundations for today's globalization.



Established company in Brazil manufacturing and selling aluminum power cables



Contributed to the establishment of high-capacity communications based on wavelength multiple xing technology (Mass production of 1480 nm pump laser diode modules)



Received the Golden Hadron Award from CERN for superconducting wire materials



Participated in the Floating Offshore Wind Farm Demonstration Project

## 2000 ~

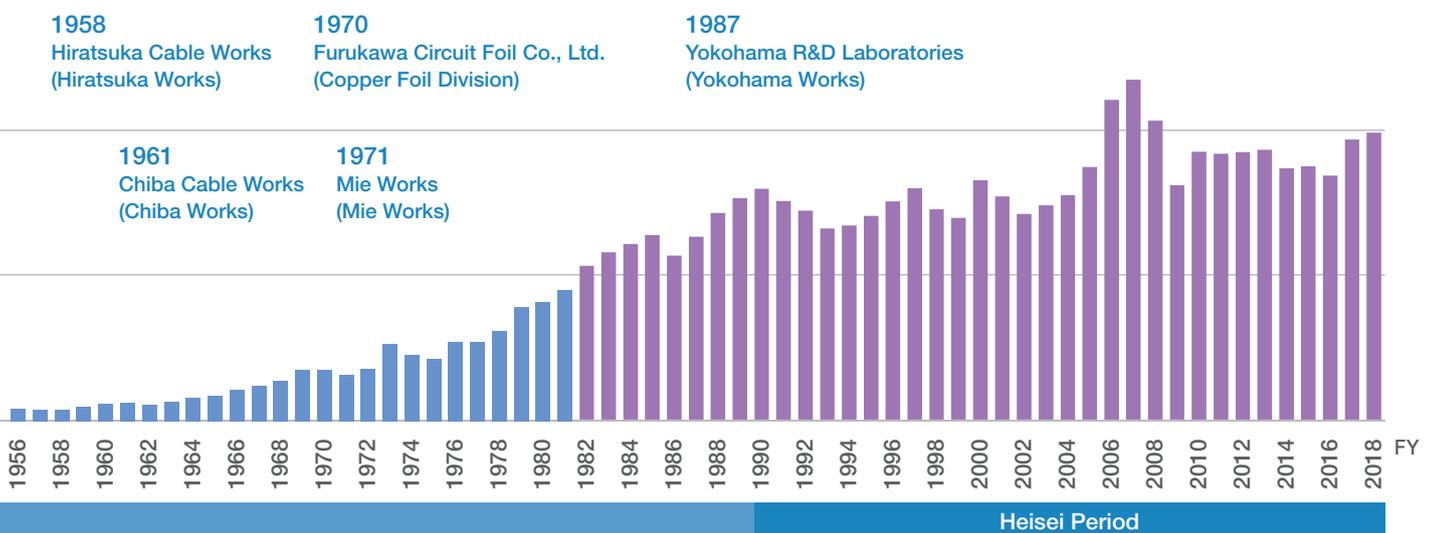
### Speeding up Global Development

The expansion of free trade areas after the end of the Cold War accelerated the globalization of the world economy, which greatly sped up Furukawa Electric's global development too. In 2001, it bought out the optical fiber solution business of Lucent Technologies in the US, jumping straight into the group of global leaders in the optical fiber market.

Global attention is on Furukawa Electric's capacity for technological development, such as its superconducting wire materials used in the European LHC particle accelerator project, the largest in the world.



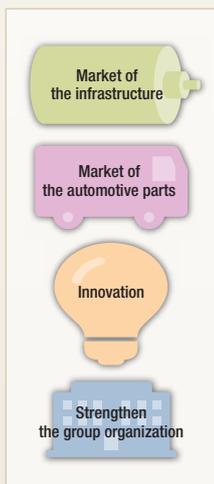
■ Non-Consolidated ■ Consolidated



# Steps of Furukawa Electric Group toward 2030

Furukawa Electric Group has formulated its mid-term management plan for the period up to 2020, “Furukawa G Plan 2020”, aimed at delivering sustained profitable growth and taking the group New Heights. We promote this plan by setting the key initiatives as Strengthen and transform the businesses, Expand sales on the global market and Accelerate the creation of new businesses. (Please refer to page 22 for details.)

With thinking about the Sustainable Development Goals (SDGs), which was set by the United Nations, we formulated “Furukawa Electric Group, Vision 2030” that clarified the time frame and business domains, incorporate it into the next mid-term management plan, and aim to become a company that has a presence.



**SUSTAINABLE DEVELOPMENT GOALS**  
17 GOALS TO TRANSFORM OUR WORLD



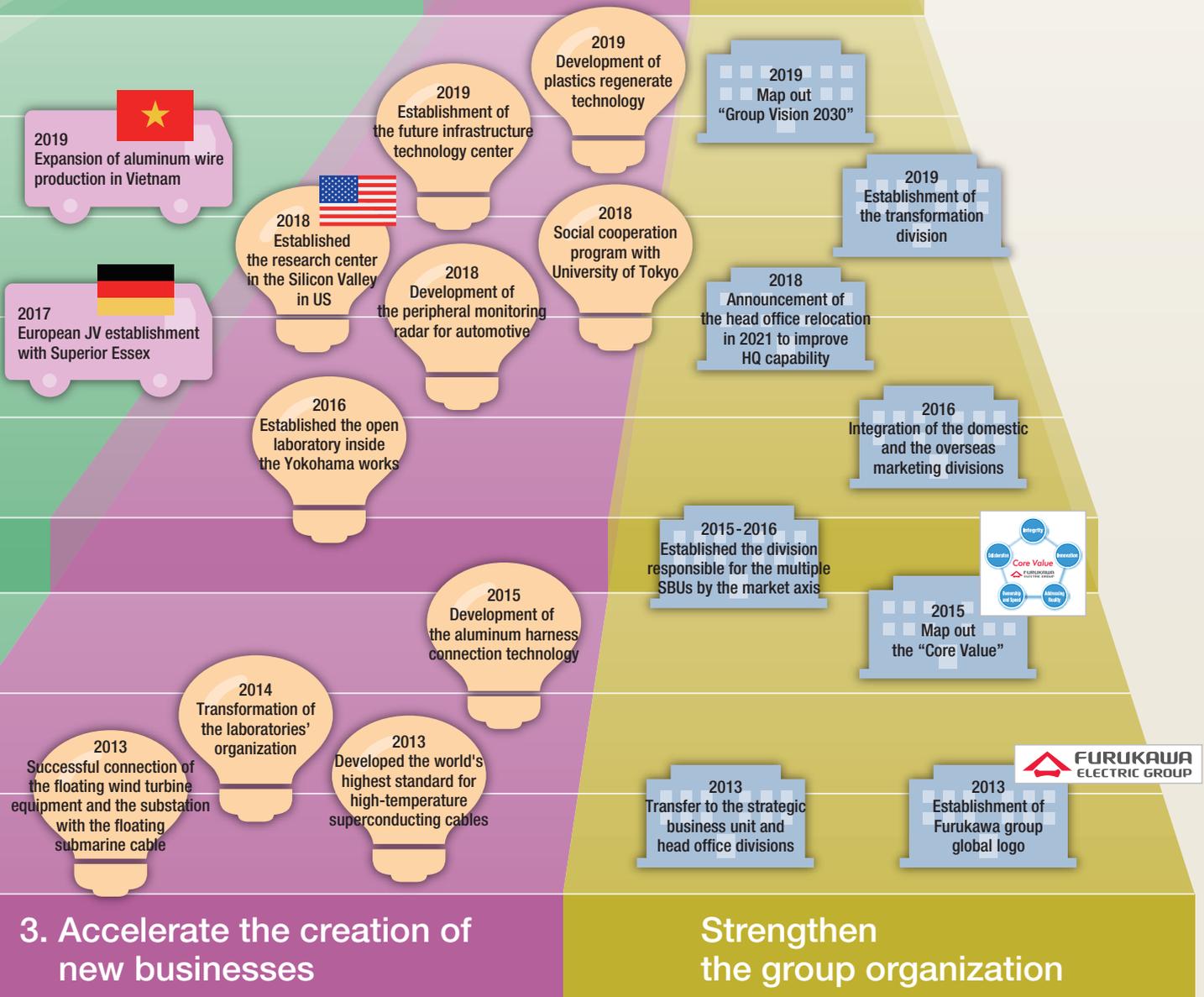
The Sustainable Development Goals (SDGs) are a collection of 17 global goals and 169 targets set by the United Nations in 2015 for the year of 2030.

2030



2021

# Taking the group New Heights





**情熱 執念 誇り**  
Passion Perseverance Pride

**We will transform into  
a sustainable corporate group  
by promoting ESG management.**

President  
Keiichi Kobayashi  
Furukawa Electric Co., Ltd.

*Kei Kobayashi*

What are the progresses of the mid-term management plan and what are the future prospects?

Furukawa Electric Group has been promoting the five-year mid-term management plan “Furukawa G Plan 2020” for the period FY2016-2020, and strengthening the infrastructure business (communications and energy) and the automotive business both positioned as priority areas. In FY2017,

we have achieved the FY2020 financial target of the original plan ahead of its schedule, so during the FY2018 period, we have set higher financial targets (the operating income of at least 55.0 billion yen, the net income attributable to owners of the parent company of at least 30.0 billion yen, the return on equity (ROE) of at least 10%).

In FY2018, the consolidated operating income was 40.8 billion yen and the net income attributable to owners of the parent company was 29.1 billion yen

and the ROE was 12.0%.

Although we are recognizing that, in FY2019, the management target figures for FY2020 are not so easy to achieve due to the uncertainty in the current market environment and a slow down in the growth rate of the communications business. We will continue to strengthen the focused businesses and products and also continue to push forward the transformation of the low margin businesses and products, together with the strengthening of the management structure that can support an environmental change such as the cost reduction through the productivity improvement.

As actions to strengthen the focused businesses and products, in the infrastructure business, and having our sights firmly fixed on the progress of 5G<sup>(note 1)</sup>, we will promote the expansion of the globalization of the communications solution field, the contribution to the stable supply of electric power that supports 5G in the energy infrastructure field and the preparation and reinforcement of the power lines and strength of the interconnections in response to distributed power generation following the increased use of renewable energy. In the automotive field, we will continue to support CASE<sup>(note 2)</sup> with the strength of the aluminum wire harnesses and the automotive products having outstanding expertise. Regarding the transformation of the low-margin businesses and products, the business portfolio including the collaboration with other companies is being reviewed by using the return on operating assets which has been introduced as a KPI<sup>(note 3)</sup> from FY2016, for the purpose of benefitting of an effective use of the management resources of the Group.

In April 2019, by establishing the “Transformation Division”, we are carrying out reformation activities within the group’s overall effort, for the purpose of strengthening profitability and organizational execution abilities. We will strive for thoroughly “strengthening the organizational execution ability” by promoting the transformation project which thoroughly utilize the PDCA (Plan Do Check Action).

(note 1) The 5<sup>th</sup> generation mobile communication system  
(note 2) Connected, Autonomous, Shared & Services, Electric  
(note 3) Key Performance Indicator

In recent years, ESG management (Environment, Social and Governance) is attracting attention. What are your state of mind and action?

#### What is your overall state of mind?

Based on the corporate philosophy of the Group, through our businesses, we have been aiming to realize a sustainable society while protecting the global environment and a healthy society. In order to ensure our sustainable growth over the future, we are currently strengthening ESG endeavors. In order to accelerate these endeavors, in April 2019, “Corporate Sustainability Office” was established in the Administration & CSR Division. And, for the purpose of achieving a management based on ESG, we will construct the value creation story which is consistent with Vision 2030 and mid-term management plan. Based on these, we will promote the portfolio review and business strategy formulation in collaboration with the concerned divisions.

#### How do you specifically address each E (environment), S (social) and G (governance)?

Regarding E (environment), as an action with respect to the climate change, we are proactively introducing renewable energy. Since the establishment of Nikko Works in 1906 (Meiji 39), power has been supplied by hydroelectric power generation utilizing the water flow from Lake Chuzenji. In FY2018, by introducing solar power generation commenced with Copper Foil Division, the renewable energy ratio was improved. In addition, in Mie Works, fuel conversion is being promoted from LPG to LNG with lower CO<sub>2</sub> emissions.

In May 2019, we announced about a development of a technology to recycle disposable plastics and papers into reinforced plastics in one original process. We will actively work on the technology that may bring new solutions to the world’s plastic problems.

In FY2018, the Group has set new “Environmental Target 2030”. And we upheld a contribution to a decarbonized society, especially setting a mid-to long-term target figures for the reduction of greenhouse gas emissions, and obtained a SBT<sup>(note 4)</sup> initiative certification.

Regarding S (social), based on the management philosophy, “Nurture human resources at every level, so that we can become a more diverse and creative organization.” we are promoting “health management” and “success of women” by also pushing forward the career development of women. This time, we were selected for the first time amongst “The 2019 Health & Productivity Stock Selection”. In addition, we have been certified for three consecutive years as the “Health and Productivity Management Organization (White 500)”. Furthermore, in the “ERUBOSHI”, which is a system to certify an excellent company for women’s career development, we are continuing to earn the highest rank.

Regarding G (governance), we are working on strengthening the corporate governance on the basis of revising the corporate governance code. Review of “Guidelines on Corporate Governance” and management improvement of the board of directors based on the effectiveness assessment of the Board of Directors are in process. With the approval at the general shareholder’s meeting on June 27, 2019, the number of independent outside directors have increased from 3 to 5, here we have one female outside director, and thus the reinforcement and the variety of the independency are progressing. Regarding ESG management, discussions at the Board of Directors are deepened to contribute to improve the corporate value over the mid- to long-term.

(note 4) SBT: Science Based Targets (Greenhouse gas emission reduction target consistent with scientific knowledge)

About  
“Furukawa Electric Group, Vision 2030”  
devised this time.

### What are the backgrounds behind the Vision 2030?

The society surrounding us is rapidly and greatly changing, and efforts to develop the life of people while further emphasizing from the view point of maintaining the global environment are necessary. In order to continuously contribute to this changing society, we need to transform ourselves. In order to be able to support the society by providing new values, I believe it is important to reorganize the management resources of the Group anticipating changes in the society. It is necessary to orchestrate the power of the Group by sharing the concept of what the group wishes to be, and to promote collaboration with outsiders to the Group.

On the other hand, we are positioning SDGs<sup>(note 5)</sup> adopted by the United Nations as the important social issue for 2030. Based on these backgrounds, we formulated “Furukawa Electric Group, Vision 2030” that clarified the time frame and business domain.

### Regarding “In order to continuously contribute to this changing society, we need to transform ourselves”, what are the endeavors by the Group?

In recent years, with the advent of the technology that will greatly change the past industrial way, the days have come when the conventional “common senses” and “success stories” do not work. In order to deal with the major change in the society, it is necessary to transform ourselves into an organizational culture and employee consciousness



that can practice “innovation”, “ownership and speed” and “collaboration” which are parts of the Core Value. In FY2018, we came up with “People Vision” which showed the basic concept of the human resource measures in general. In addition the “Transformation Division” mentioned earlier is promoting efforts to transform it into a vibrant organization culture implemented by the Group employees.

**Regarding “Promote collaboration with outsiders to the Group”, what kind of specific activities have been started?**

In order to achieve Vision 2030, innovations by collaboration with all stakeholders are indispensable. The open lab “Fun Lab®” in Yokohama Works has been becoming more active in its efforts towards collaboration just as if the expansion of the facility is becoming necessary. We are also working for The Social Cooperation Program with the University of Tokyo that started in February 2018 and for the accelerated activities aiming to strengthen the collaboration with the startup companies. In August 2018, SVIL<sup>(note 6)</sup> was opened in Silicon Valley, a source of the global innovation. In February 2019, “Future Infrastructure Technology Center” was established in the Research & Development Division to accelerate new business creation works through collaboration.

(note 5) SDGs: Sustainable Development Goals  
Social issues to be solved by 2030, adopted by the United Nations in 2015.

(note 6) SVIL: Silicon Valley Innovation Laboratories, Furukawa Electric  
The fourth overseas research base of the company established in Silicon Valley, California, USA.

**Furukawa Electric Group, Vision 2030**



In conclusion, what is important for the Group is to continue to be a sustainable group in the future and to improve the value of the corporate group?

Mr. Ichibei Furukawa, the founder of Furukawa Group, said “Let employees be important, customers be important and the new technology be important.” I believe “The three importance” are the fundamental culture that still works today, in order to remain a sustainable company. While adhering to this spirit, striving to ensure safety, quality and compliance, these are absolute conditions for the Company to survive. On top of these, maintaining discussions with internal and external people with an open mind by watching changes in the society from a broad perspective, by creating products and services that can solve customers’ and societies’ problems with a new technology, by working “stimulated” in the context that customers’ pleasure is our pleasure, and then having pride and responsibility for what we have sent out to the world, when we can maintain to be in such a virtuous cycle, I believe that we can continue to be a sustainable company as an indispensable part of the society and to improve the corporate value.

Last but not least, while the world changes greatly and rapidly, in order for all stakeholders to have reassurance and expectations, we will promote ESG management without slowing down and continue our transformation. With the slogan “Passion, Perseverance, Pride”, I will lead the Group brightly and actively, and strive to increase the corporate value and to grow sustainably. We appreciate your continued understanding and support for the Group.



We will increase our cash creation capability and improve corporate value by a steady return on growth investments and by an improving asset efficiency



Director and Corporate Vice President,  
General Manager of the Finance & Global Management Division

Akihiro Fukunaga

## What are you focusing on for now, as CFO?

FY2018 is a midpoint of the mid-term management plan “Furukawa G Plan 2020”, in order to “deliver sustained profitable growth” and to “take the group New Heights”, I am working on (1) Strengthen and transform the focused businesses, (2) Expand sale on the global market, (3) Accelerate the creation of new business.

For these purposes, we are strengthen the growth investments mainly in the infrastructure and automotive segment, then the capital investment in FY2018 exceeded the previous year. In FY2019, the investment level will be maintained at the same level as the previous year, focusing on strengthening of further cost competitiveness.

In terms of management indicators, especially net debt equity ratio (NET D/E ratio), equity capital ratio, and return on equity (ROE) levels are set as target figures for FY2020, and we are focusing on improving the financial health. In FY2018, in order to improve asset efficiency, we have proceeded with the sale of assets such as real estates and securities and the optimization of inventory balance.

However, we recognize that the extraordinary loss due to low-margin businesses is the issue for us, we have considered and implemented various countermeasures. Among them, as a unique management indicator, the Group has introduced

return on operating assets as a KPI since FY2016 which is the first fiscal year of the mid-term management plan. This is an indicator to measure the profit which could be earned through the operating assets (inventories + tangible and intangible fixed assets). We will strengthen the focused businesses and improve the low-margin businesses by conducting business management at each business unit based on this KPI, and consistently make further improvement of the asset efficiency in all companies of the Group.

Aiming for the management with an emphasis on the asset efficiency, the basic principle of the capital policy of the Company is to keep a good balance between investments in future growth, cultivation of new business, improvement of financial health and shareholder returns. Regarding the shareholder returns, we have a stable dividend policy, the dividend in FY2018 was 85 yen/ share by increasing 5 yen, in view of profit growth.

### “Furukawa G Plan 2020” quantitative management targets (extract)

NET D/E ratio	< 0.8
Equity capital ratio	> 30%
ROE	> 10%
Return on operating assets	10% or more

Return on operating assets = Operating income / operating assets  
(Operating assets = Inventories + Tangible and intangible fixed assets)

## Some more information about investment in growth areas.

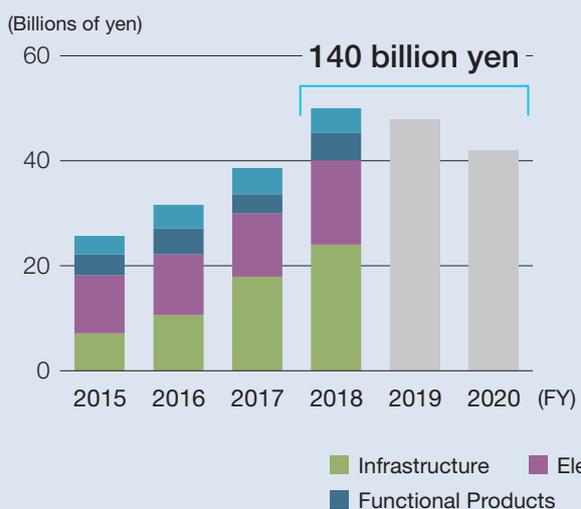
We are strengthening the growth investment, mainly in the automotive and infrastructure (Communications Solutions and Energy Infrastructure) segments. In the 3 years for the period FY2018-2020, the capital investment of 140 billion yen and R&D expenses of 70 billion yen are planned.

Regarding the capital investment, we believe, in addition to investing in order to meet the future demands, it is important to strengthen the cost competitiveness in order to cope with changes in the business environment. And in FY2019, we will also focus on the investments in rationalization such as productivity improvement and information integration systems.

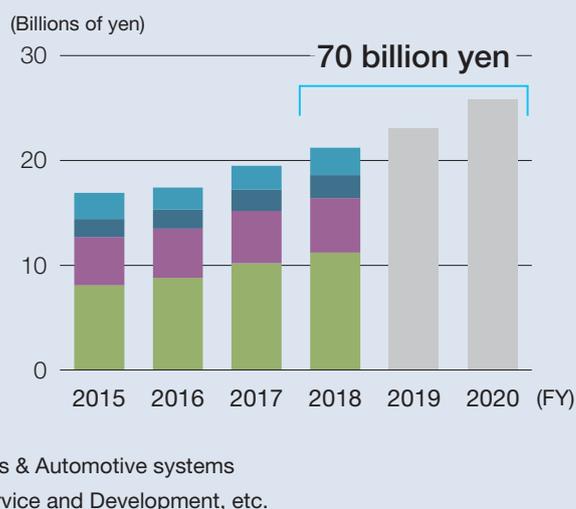
Regarding the R&D, we are focusing on the development to support 5G society and CASE. Particularly in recent years, we are actively promoting actions for the open innovation with the aims of speeding up the new product development and the acceleration of the new business creation.

While looking at the balance between “cash flow”, “future growth” and “efficiency of capital”, and emphasizing the timing of the capital investment and the contribution to the mid-term management plan through the investment recovery, we will sharply commit the capital investment and the R&D investment and others.

CAPEX by segment



R&D expenses by segment



## Last but not least, your message.

The Group has 121 companies in Asia, the Americas, Europe and others, and more than 50 thousand of employees. Globalization goes ahead through the environment surrounding the Group, in addition to the increasingly diverse and complex environment surrounding the Group, the geopolitical risk also increases, and then the uncertainty about the future is increasing.

In such environmental changes, in order for the Group to survive, we shall more powerfully promote the global management.

In recent years, news and information about AI and

IoT are being reported almost every day. In the Group, the global accounting, financing and tax governance are becoming more advanced and evolved by promoting proactive efforts in administrative work as well, for the application and the development of the latest technologies such as RPA (Robotic Process Automation), BI (Business Intelligence) and data analytics.

And by the steady recovery of growth investment and by improving asset efficiencies, we will increase cash generation and improve the corporate value.

# Mid-term Management Plan (FY2016 to FY2020)

## Furukawa G Plan 2020

### Key initiatives

1. Strengthen and transform the businesses
2. Expand sales in the global market
3. Accelerate the creation of new business

### Strengthen the group organization in FY2016

- Established the division responsible for multiple SBUs (business divisions)
- To the Global Marketing Sales Division. (Integration of the domestic and the overseas marketing divisions)

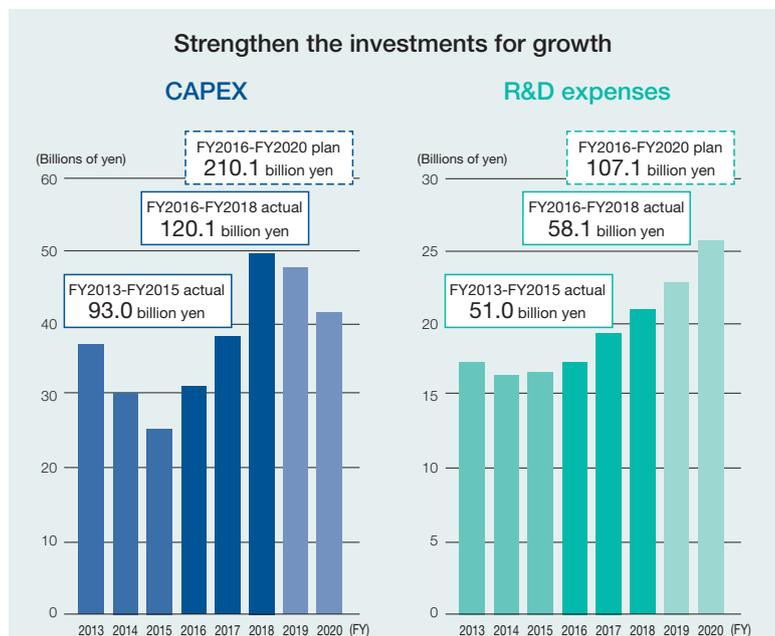
Furukawa Electric group has advanced management based on mid-term management plan for 5 years from FY2016 to FY2020. The quantitative management targets originally set at the start of the current Mid-term Management Plan were achieved three years ahead of schedule in FY2017. Therefore new quantitative management targets were set for FY2020 last year.

### Furukawa G Plan 2020 Quantitative management targets

	FY2015 Result	FY2016 Result	FY2017 Result	FY2018 Result	FY2019 Forecast	2020 Mid-term Management Plan		As of May 2016
						As of May 2016	As of May 2018	(As the level for the 2020 Mid-term Management Plan and beyond)
Operating income (yen)	27.1 billion	38.6 billion	44.8 billion	40.8 billion	40.0 billion	At least 40.0 billion	At least 55.0 billion	
Net income (yen)	10.0 billion	17.6 billion	28.5 billion	29.1 billion	21.0 billion	At least 20.0 billion	At least 30.0 billion	
NET D/E Ratio	1.19	0.99	0.88	0.81	0.8	—	< 0.8	< 0.8
Equity capital ratio	24.5%	27.6%	29.0%	30.3%	31%	—	> 30%	> 30%
ROE	5.5%	9.3%	12.9%	12.0%	8%	> 8%	> 10%	> 10%
Return on operating assets	9.1%	12.1%	13.1%	11.2%	11%	At least 10%	At least 10%	

## Strengthen the Growth Investments

The group is strengthening the growth investments mainly in the automotive and infrastructure (Communications Solutions and Energy Infrastructure) segments. In FY2019, we will also focus on investments in improving productivity and rationalization.



### “Transformation Div.” was established on April 1, 2019

Currently, the market environment surrounding the business is weak, for this FY, we established the “Transformation Division” as the specialized division responsible to strengthen the earnings capability and ability of the organization to execute through a thorough review of costs and operational processes. We start the “Transformation Project” that thoroughly utilize the PDCA and strive to “Strengthen the ability of the organization to execute”.

### Main initiatives

- Accelerate the growth of the Optical Fiber and Cable Products business again globally
- Increase the probability and hasten the timing of realizing the benefits from the Energy Infrastructure strategy
- Further optimize the product mix in the Copper & High Performance Material Products business

### Chiba Works



In Chiba Works, the establishment of manufacturing capability and the productivity improvement for the long-length submarine cable are in progress.

### FALP (Philippines)



In Philippines, the production increase investment for the wire harnesses is proceeding.

### Details of the major investments in Furukawa G Plan 2020

- Communications Solutions** Increase production of optical fiber, and improve the productivity of optical fiber and cable  
Develop high value added products
- Energy Infrastructure** Establish manufacturing capability and improve productivity for long-length submarine cable
- Automotive Products** Strengthen the production system directed at expanding wire harnesses for North America  
Develop onboard radar and other components that contribute to autonomous driving
- Services, etc.** Invest in rationalization, such as information integration systems

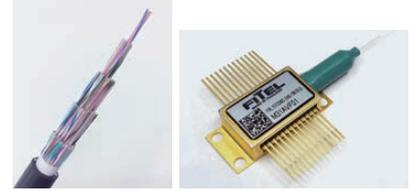
# Initiatives to Strengthen Businesses

In particular, various initiatives are being conducted to strengthen the businesses mainly in the infrastructure (Communications Solutions and Energy Infrastructure) and automotive segments.

<b>Communications Solutions</b>	<b>Growth opportunities</b>	5G (ultra-high speed/ large capacity, low latency, simultaneous connection of multiple terminals)
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**Major initiatives**

- Develop and expand sales of product lines and services that respond to higher speed, larger capacity communications.
- Increase the contributions to promoting the establishment of communications infrastructure that supports the fusion of energy infrastructure and mobility.
- Strengthen the global management system



<b>Energy Infrastructure</b>	<b>Growth opportunities</b>	Prepare and reinforce the power lines and strengthen the interconnections in response to distributed power generation following the increased use of renewable energy, and the stable supply of electric power to support 5G
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**Major initiatives**

- The new power cable organization started following the reorganization conducted in October 2016
- Narrow down the focal segments<sup>(note)</sup>, and focus on the segments in which the group can utilize its strengths  
(note) Ultra-high voltage underground cable and submarine / underground cable for renewable energy in Japan, and submarine cable in Asia
- Increase the installation capacity, and strengthen the facilities for responding to submarine cable



<b>Automotive Products</b>	<b>Growth opportunities</b>	Advances in CASE (lightweight, vehicle electrification, autonomous driving, etc.)
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**Major initiatives**

- Expand the overseas locations directed at expanding wire harnesses for North America
- Respond to orders for aluminum wire harnesses that meet the requests for lighter weight
- Expand sales of product lines that contribute to autonomous driving (peripheral monitoring radar, BSS, etc.)



In order to optimize the business portfolio, while improving the profitability of the low-margin businesses and products, we are actively working for the creation of new business as well.

In FY 2016, the return on operating assets<sup>(note 1)</sup> was introduced. Directed at effectively utilizing the management resources of the group companies, we currently revising the business portfolio, including the partnerships with other companies.

Furthermore, for the creation of new business, we have been actively promoting initiatives for open innovation, such as the establishment of the open laboratory “Fun Lab®” (established in FY 2016 and renewed in June 2019), and the newly establishment of the research base SVIL<sup>(note 2)</sup> in the Silicon Valley, in US (August 2018), etc.

(note 1) Return on operating assets : Operating Income / Operating assets  
(Operating assets=Inventories + Tangible and Intangible Fixed Assets)

(note 2) SVIL : Silicon Valley Innovation Laboratories, Furukawa Electric

## Further revise the business portfolio

From FY2016, return on operating assets has introduced as a KPI. Directed at effectively utilizing the management resources of the group companies, currently revising the business portfolio, including the partnerships with other companies

Response to the low-margin / non-core businesses	Create new businesses
<p><b>Complete</b></p> <ul style="list-style-type: none"> <li>- Downsize / withdraw from phosphor bronze strips</li> <li>- Withdraw from the refrigerant pipe business (Okumura Metals)</li> <li>- Sell the shares of FCM</li> </ul> <p><b>Plan to complete within the current fiscal year</b> <small>Figures in ( ) indicate net sales</small></p> <ul style="list-style-type: none"> <li>- Project A (About JPY 30 billion)</li> <li>- Project B (About JPY 20 billion)</li> <li>- Project C (About JPY 40 billion)</li> </ul>	<p><b>Complete</b></p> <ul style="list-style-type: none"> <li>- Commercialize the fiber laser business</li> <li>- Launch the reinforced plastics business (Cooperative venture with Tetra Pak and Veolia)</li> </ul> <p><b>Under consideration</b></p> <ul style="list-style-type: none"> <li>- Project a (Conclude non-disclosure agreements with Company X and Company Y)</li> <li>- Project b (Considering a cooperative venture with Company Z)</li> </ul>

## Example of creating new business

Propose solutions that meet customer needs with the high output lasers and high quality beam control

Demand for copper following the trend towards EV

**Various processing solutions**

Beam mode control technology

Industrial laser sales (2017=100%)

## Infrastructure

# Communications Solutions

**Business division:**

Optical Fiber and Cable Products  
FITEL Products  
Broadband Solution Business

Furukawa G Plan 2020 basic policy :

Expand the global business with an eye on the advances in 5G



Corporate Executive Vice President and General Manager of Communication Solutions Division  
Takahide Kimura

The Communications Solutions Division is made up of the Optical Fiber and Cable products Division, FITEL products Division and Broadband Solutions Business Division, and it is involved in the manufacture and sale of products for telecommunications infrastructure and the design, installation and service of telecommunications networks.

The world is starting a transition to 5G (5th generation mobile telecommunications system), and this will bring about drastic changes to daily life.

For the 5G society, “ultra-high speed and high capacity”, “low latency” and “simultaneous connections of multiple terminals” are required, and the division is working to develop and sell product lineups and services that respond to these social needs.

### Strengths

- Global production locations serving growing markets
- Differentiation through highly functional products and technology (optical fiber and cable, digital coherent, network technology, etc.)

### Initiatives to address the current challenges

- Reduce the cost of manufacturing by increasing productivity
- Improve the way sales are conducted
- Promote the development of next generation products



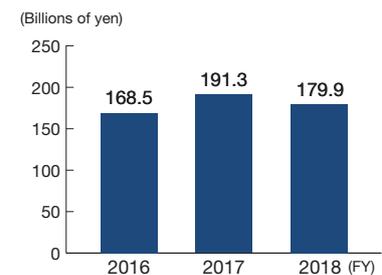
## Overview of FY2018

Products for network systems in Japan did well, backed by increased demand mainly due to the launch of 4K and 8K television broadcasting; and the sales of industrial lasers used for cutting and welding of metals also increased. However, the sales of optical fiber cables in North America slowed down due to a delay in the recovery of demand as our main clients reduced investment.

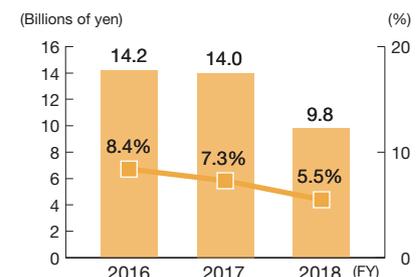
### Introduction of products

Business	Main products	Main applications	Main customer segments
Optical Fiber and Cable Products	- Low loss fibers for submarine power cable and long distance - Low bending loss fiber for building/residential applications 	- Telecommunications - Video broadcasts - Data centers	- Telecommunications carriers - CATV providers - OTT
	- Rollable ribbon cable 	- Telecommunications - Video broadcasts - Data centers	- Telecommunications carriers - CATV providers - OTT
FITEL Products	- Variable wavelength laser modules (ITLA) - Industrial lasers  	- Digital coherent signal light source - Cutting, welding, etc.	- System vendors - Transmission device manufacturers - Industrial Processing manufactures
	- FTTH system devices 	- Telecommunications service - Broadcast service - Design, installation	- CATV providers - Municipalities - Telecommunications providers
Broadband solutions Business	- Network routers 	- High speed, high capacity telecommunications service - Establish VPN	- Telecommunications providers - General companies

### Net sales



### Operating income / Operating income margin on sales



Furukawa G Plan 2020 basic policy :

Establish a business foundation for contributing to strengthening the interconnections and preparing & toughening the power lines in response to renewable energy

The Energy Infrastructure Division is made up of the Power Cable Division and Industrial Cable & Power Cable Accessories Division, and it is involved in the manufacture, sale and installation of ultra-high voltage, high voltage and medium to low voltage power cable and equipment.

The Power Cable Division was newly established following the reorganization in October 2016.

Based on the national government policy of “make renewable energy a major source of electric power”, it will be necessary to prepare and reinforce the power lines in response to increasingly distributed power generation and strengthen the interconnections in Japan. Also, a stable supply of high-quality electric power is needed to support the 5G society, so while quickly establishing the business base, the division will contribute to the shift to the future energy mix.



Corporate Executive Vice President and General Manager of Energy Infrastructure Division  
Takamitsu Kozuka



<b>Strengths</b>	<ul style="list-style-type: none"> <li>Abundant experience in delivering submarine and underground cable</li> <li>High technical capability and quality</li> </ul>
<b>Initiatives to address the current challenges</b>	<ul style="list-style-type: none"> <li>Strengthen the installation capabilities</li> <li>Strengthen the facilities for submarine cables</li> <li>Increase the productivity of cable</li> <li>Expand sales of low voltage aluminum CV cable</li> </ul>

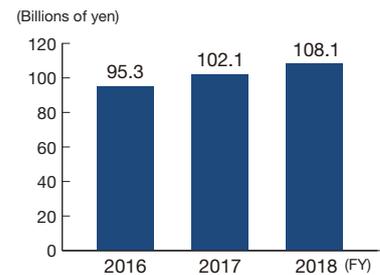
Overview of FY2018

An operating loss was recorded for the full year as a result of the low margin overseas underground cable projects ordered in the past and recording a provision for construction losses in relation to strategic orders for submarine cable renewable energy projects. However, while definitely capturing the demand for underground cable in Japan and increasing earnings from high value added products, efforts were made to strengthen and establish the business base by improving cable productivity and increasing installation capability. Through these efforts, a profit was recorded in the 2nd half of FY2018.

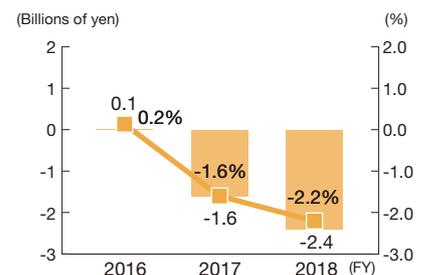
Introduction of products

Main products	Main applications	Main customer segments
- Ultra high voltage (220kV and higher) and high voltage (66kV and higher) underground transmission cables, accessories and installation 	- Underground power lines between power plants - substations - large factories - New energy power station related (interconnections), etc.	- Electric power (distribution) companies, large factories, etc. - New energy source electric power companies (SPC), etc.
- Submarine transmission cables and installation 	- Submarine power cable from new energy power stations such as offshore wind power stations (new business domain) - Interconnections between regions and to islands, etc.	- New energy source electric power companies (SPC) - Electric power (distribution) companies, etc.
- Low to medium voltage power cables 	- Indoor wiring in factories, buildings, etc. - Wiring of the distribution board/ control panel for factory facilities/equipment - Wiring of mobile equipment - Solar power systems - Wiring of ship's onboard electrical equipment, etc.	- Construction contractors - Electronic appliance manufacturers - Railroad companies - Shipbuilding companies, etc.
- Electric power distribution accessories and overhead transmission line accessories 	- Electrical materials for distribution lines - Direct and branch cable connections - Insulation and protection for connectors - Electric power supply to railroad cars, etc.	- Electric power companies - Construction contractors - Railroad companies, etc.

Net sales



Operating income / Operating income margin on sales



Electronics & Automotive Systems

Electronics & Automotive Systems

Business division:

Automotive Products & Batteries  
Automotive Products  
Batteries\*

Electronics Component Material  
Electric Conductor  
Magnet Wire  
Copper & High Performance Material Products  
Copper Tube

Furukawa G Plan 2020 basic policy :

(note) The Battery Division is the business conducted by the listed subsidiary The Furukawa Battery CO., LTD.

Expand the business through the synergy effects between materials and components

The Electronics & Automotive System Division is made up of the Automotive Products Division, Battery Division, Electric Conductor Division, Magnet Wire Division, Copper & High performance Material Products Division and Copper Tube Division, and it is involved in the manufacture and sale of automotive components and copper products for electronics devices and materials.

In the automotive industry, the market for communications devices, sensors, control devices and passive components has grown following the increased opportunities for sharing information and knowledge as a result of “vehicle electrification”, “autonomous driving technology”, “IoT” and “AI”. Moreover, the materials are also required to have diverse characteristics.

In response to the major changes underway around the world, the division is utilizing its capabilities in material development, manufacturing technology, components and materials mainly in the automotive components business, and it will make a wide range of valuable proposals that are unique to the company.



Corporate Executive Vice President and General Manager of Electronics & Automotive Systems Division  
Hiroshi Kawaguchi



Strengths	Initiatives to address the current challenges
<ul style="list-style-type: none"> <li>Material development in line with customer needs</li> <li>Product design and development utilizing the strength in materials</li> </ul>	<ul style="list-style-type: none"> <li>Expand the overseas locations directed at increased shipments of wire harnesses to North America</li> <li>Expand sales of original alloys that support the increasingly higher performance of electronic devices</li> <li>Improve profitability by improving the product mix and strengthening the capabilities of manufacturing</li> </ul>

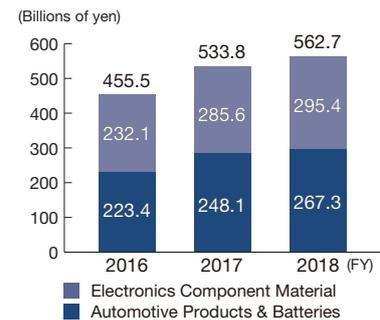
Overview of FY2018

This segment maintained strong performance due to the following factors: Automotive Products business achieved strong sales of wire harnesses; Copper & High Performance Material Products business improved the profitability by optimizing the product mix; and Magnet Wire business benefited from steady sales of automotive products.

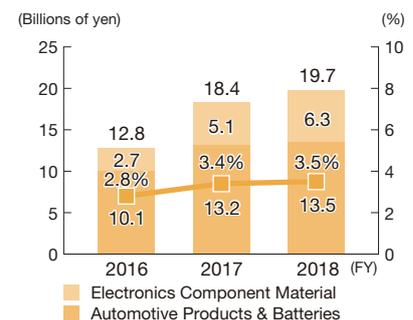
Introduction of products

	Safety	Light weight	Electrification	Key products	Main applications	Main customer segments
Automotive Products	●			- Quasi-millimeter wave radar	- Advanced driver-assistance systems (ADAS)	- Japanese automobile manufacturers
	●			- Steering roll connector (SRC)	- Connector for airbags	- All automobile manufacturers worldwide, including Tier 1
	●	●		- Lead battery state detection sensor (BSS)	- Vehicle power source management	- Japanese automobile manufacturers
	●	●		- Products using flat cable	- Electricity supply and signal transmission for sliding doors and long slide seats	- Automobile manufacturers
		●		- Aluminum harnesses - Corrosion-proof terminal (α terminal)	- Reduce the weight of vehicle wiring (W/H)	- Japanese automobile manufacturers
			●	- High voltage products	- Wiring for electric vehicles	- Japanese automobile manufacturers

Net sales



Operating income / Operating income margin on sales



	Main products	Main Applications
Electronics Component Materials	Copper wire Magnet wire	- Wire harnesses - Various cables
	Oxygen free copper	- Shielding strips - Heat pipes - Power modules
	Thin sheets	- Terminals - Anti-corrosion terminal (α terminal) - Semiconductor lead frames

# Functional Products

**Business division:**

- AT & Functional Plastics
- Thermal Management Solution & Products
- Memory Disk
- Copper Foil

Furukawa G Plan 2020 basic policy :

(note) This segment includes the businesses of the listed subsidiary TOTOKU ELECTRIC CO., LTD. and etc.

## Work to co-create with customers and continue to provide solutions

The Functional products Division is made up of the AT & Functional Plastics Division, Thermal Management Solution & Products Division, Memory Disk Division and Copper Foil Division, and it is involved in the manufacture and sale of functional products made from plastics and non-ferrous metals.

The division is contributing through a diverse product lineup to the realization of a 5G society with higher speed, higher capacity communications and to a sustainable society that will support this.

In the electronics market including data centers, while aiming to increase profits through well differentiated products with high added value, the division is providing solutions in line with the changes in the social environment through product development based on the company's plastics technology.



Corporate Senior Vice President and General Manager of Functional Components Division  
**Ryoji Ono**



### Strengths

- Ability to propose and develop products in line with customer needs

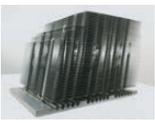
### Initiatives to address the current challenges

- Develop next generation products that will form the foundation of new revenue
- Develop new markets and propose new applications
- Improve further productivity and strengthen the ability to respond to market changes

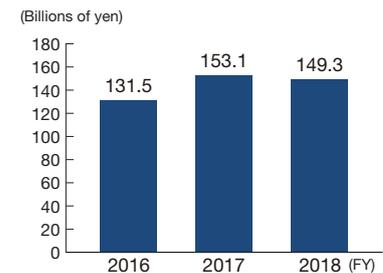
## Overview of FY2018

In the Copper Foil Division, the results were strong as a result of revising the product mix and capturing the robust demand through the end of last year. In the Memory Disk Division, sales of aluminum hard disk drive blanks for data centers were strong through the end of last year, but in the 4<sup>th</sup> quarter, the profitability of the overall business in this segment declined due to lower demand in the electronics market.

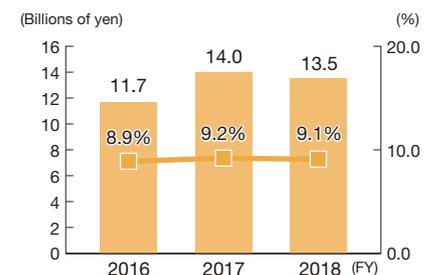
### Introduction of products

	Main products	Main applications	Main customer segments
AT & Functional Plastics	- Tape for semiconductor process  AT : Advanced Technology Tape	- Surface protection, immobilizing, etc. during semiconductor wafer processing - Semiconductor chip stacking in flash memory	- Semiconductor manufacturers - foundry manufacturers
	- Cable protective pipes - Troughs made from recycled materials - Insulation materials 	- Protective pipes for underground cable - Troughs for holding cables - Insulation for air conditioning ducts	- General construction companies and subcontractors - Railroads - Highway public corporations and road subcontractors - Air conditioning duct manufacturers
Copper Foil	- Electrolytic copper foil for printed wiring boards 	- Rigid printed wiring boards - FPC	- FCCL manufacturers - CCL manufacturers - Battery manufacturers
	- Electrolytic copper foil for batteries	- Cathode material in lithium ion batteries for vehicles - Cathode material in lithium ion batteries for consumer products such as smartphones and power tools	
Thermal Management Solution & Products	- Copper, etc. including heat sinks and heat pipes 	- Heat dissipation and cooling of CPUs and power semiconductors, electronics components, high output LED lighting, etc.	- Data center operators telecommunication base station operators - Smartphone, PC and tablet manufacturers - Manufacturers of power conditioners for railroads and solar power - Lighting equipment manufacturers, etc.
Memory Disk	- Aluminum blanks for HDD 	- HDD for PCs and data centers	- HDD substrate manufacturers

### Net sales



### Operating income / Operating income margin on sales



# State-of-the-Art Analysis Technology that Has Supported and Accelerated Technology Innovation within Furukawa Electric Group

## Aiming to build a trust relationship with various stakeholders including customers through analysis technology

Technology innovation is indispensable for Furukawa Electric Group to achieve sustained profitable growth. Advanced techniques of material analysis are required to accelerate technology innovation. In order to accelerate the development of new products and improve the reliability of existing products, Furukawa Electric Co., Ltd. (FEC) is utilizing various state-of-the-art analysis techniques, including electron microscopy. Additionally, FEC advances collaborative research with several universities by open innovation, developing novel techniques for analyzing materials and products.



Professor Shibata (the University of Tokyo) and FEC's researchers have developed a novel method of semiconductor observation and analysis using a state-of-the-art transmission electron microscope.

### Roles of the Analysis Technology Center

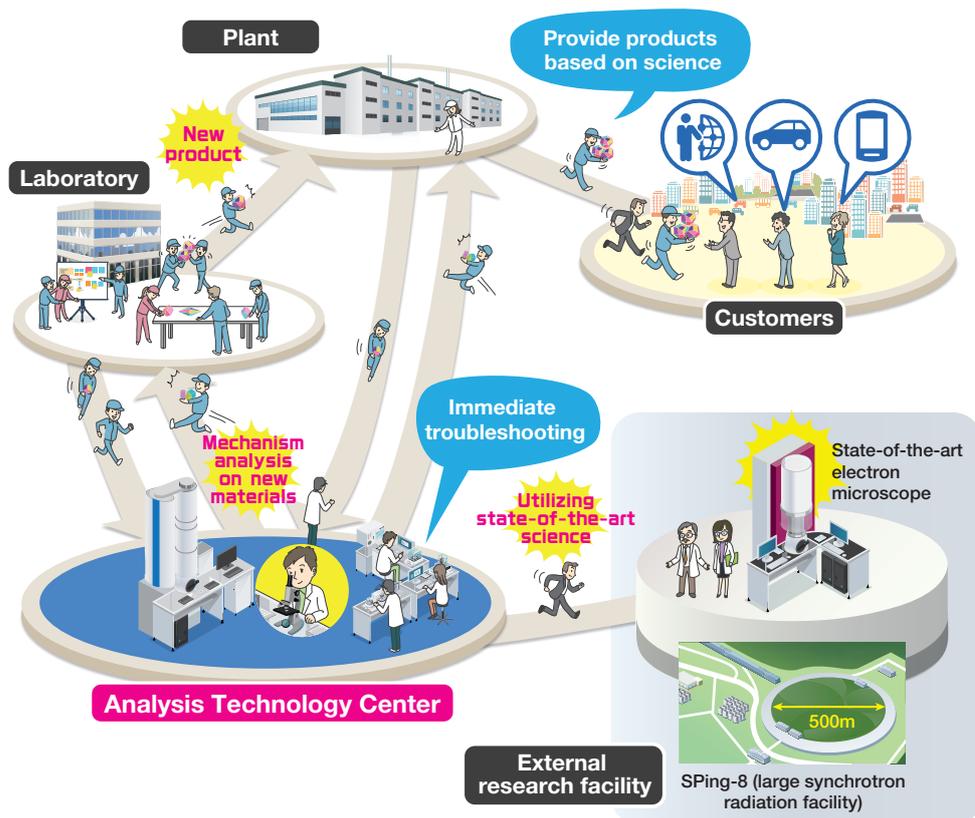
At the actual sites where cutting-edge products are developed, it is essential to thoroughly understand the materials that constitute the products, control the materials, and produce the products as designed. New products have been developed due to our increased understanding and control of compound semiconductors (indium phosphide, etc.) in the case of semiconductor laser diodes (LDs), copper and related materials in the case of copper foils, and copper and copper alloy products, and adhesive compound/backing films in the case of tape for semiconductor processes. When any type of problem occurs at the plants, it is necessary to quickly conduct troubleshooting and thoroughly investigate the cause.

FEC has set up the Analysis Technology Center (ATC) under Advanced Technologies R&D Laboratories, Research & Development Division. ATC has accelerated the development of

new products in each laboratory and supported the production of existing products in each factory by utilizing the technologies of material analysis, reliability, simulation, and artificial intelligence (AI) applications.

When FEC does not possess the right equipment for an analysis, ATC typically borrows it, such as a state-of-the-art electron microscope from the University of Tokyo, or utilizes a synchrotron radiation facility such as SPring-8, which is used for analyzing many products.

Through conducting reliable material analysis and providing customers with products based on science, ATC is contributing to solving customers' problems together, aiming to be a company that is fully trusted by its various stakeholders.



(note 1) SPring-8 (located in Harima Science Park City, Hyogo Prefecture, Japan) is the world's largest synchrotron radiation facility and delivers the most powerful synchrotron radiation. SPring-8 generally enables analysis with higher precision and higher sensitivity than laboratory-based equipment, being capable of investigating the products in detail.

## Analysis of Semiconductor Laser Diodes by Transmission Electron Microscopy

Recently, in order to respond to rapid increases in data traffic, we have developed ITLA <sup>(note 2)</sup>. In recognition of its “development of high-power/narrow-width/wideband variable wavelength laser modules for high-capacity digital coherent optical telecommunications systems”, FEC was awarded the 64th Okochi Memorial Production Prize in 2017.

The semiconductor LD, which is one of the main components of ITLA, is made of a crystal mainly composed of indium and phosphor. The multi-layer structure of the semiconductor crystal is controlled at the atomic level, and semiconductor LDs are produced. A transmission electron microscope <sup>(note 3)</sup> (TEM) capable of observing the LD sample with a scale of 1 nanometer or less is required to maintain high quality and high reliability. ATC quickly improves the quality and thoroughly investigates the cause of problems by utilizing the electron microscope owned by FEC. Additionally, for advanced analysis, ATC utilizes state-of-the-art electron microscopes owned by external research institutions, thus accelerating the development of next-generation semiconductor LD products.

(note 2) Please refer to page 24 for ITLA.

(note 3) Transmission Electron Microscope: Technique and equipment to observe and analyze the fine structure of samples

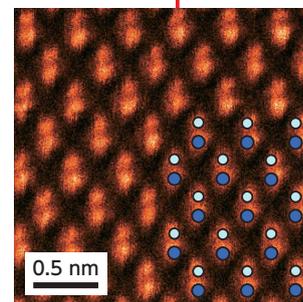
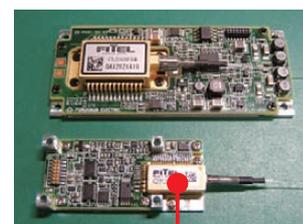
## Collaborative Research on State-of-the-art Transmission Electron Microscope with the University of Tokyo

A novel method of semiconductor observation and analysis using DPC-STEM <sup>(note 4)</sup> has been developed through collaborative research with Prof. Yuichi Ikuhara and Prof. Naoya Shibata from the University of Tokyo. The details of this method were published in “Scientific Report” in 2015. The product of this collaborative research was created by a fusion of core technologies (specifically, the electron microscope technique and scientific knowledge) contributed by both FEC and the University of Tokyo. FEC has since applied this method to accelerating development and improving reliability of semiconductor LDs.

To accelerate the development of various products as well as the semiconductor laser diode, FEC has utilized the advanced transmission electron microscope owned by the University of Tokyo. The right-hand figure shows a sample image of oxygen free copper (OFC) with atomic scale taken by HAADF-STEM <sup>(note 5)</sup>. Please refer to page 26 for OFC, which is the main product of the Electronics Component Material business.

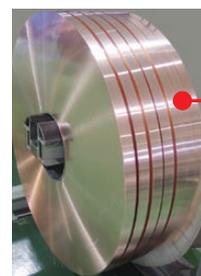
(note 4) DPC-STEM: Differential Phase Contrast-Scanning Transmission Electron Microscope

(note 5) HAADF-STEM: High-Angle Annular Dark Field Scanning Transmission Electron Microscope

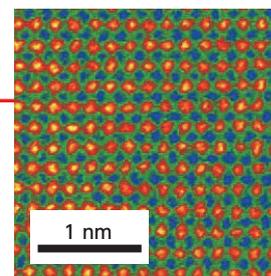


● Indium atom ○ Phosphor atom

TEM image of indium phosphide crystal that constitutes one of the semiconductor LDs



Oxygen free copper coil



TEM image of OFC crystal

## Analysis of High-temperature Superconducting Tapes Utilizing SPring-8

Artificial pins <sup>(note 6)</sup> within ten nanometers in diameter exist in superconducting tape. Superconductivity characteristic can be dramatically improved by controlling the size and density of artificial pins in superconducting tape.

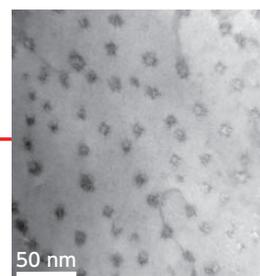
We have developed a highly precise analysis of the size and density of artificial pins in superconducting materials using Small Angle X-ray Scattering <sup>(note 7)</sup> at SPring-8. Design guidelines for artificial pins based on a new concept are obtained by this analysis method. This contributes to the production of superconducting products with high reliability by feeding back to the manufacturing process.

(note 6) Artificial Pin: Non-superconducting phase to intentionally pin the magnetic flux moving in superconducting materials

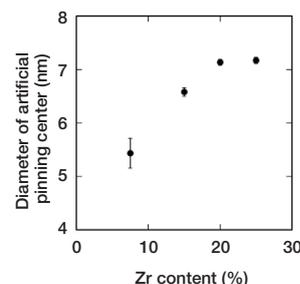
(note 7) Small Angle X-ray Scattering: X-rays scattered from a material by irradiating x-rays are analyzed to obtain information on the average diameter and density of the nanoparticles (typically a few nanometers) in the material.



High-temperature superconducting tape



TEM image of the artificial pins  
(The spots scattered in the picture show the artificial pins)



Diameter of artificial pins by SAXS

## Installation of the Latest X-ray Photoelectron Spectroscopy Apparatus

The latest x-ray photoelectron spectroscopy (XPS) <sup>(note 8)</sup> apparatus was installed at the Analysis Technology Center at Yokohama Works in fiscal 2018. ATC previously carried out hard x-ray photoelectron spectroscopy (HAXPES) at synchrotron radiation facilities such as SPring-8. However, after installing the XPS equipped with a new option (a hard x-ray), HAXPES is now performed at Furukawa Electric Group.

It is now possible to immediately investigate issues related to quality control and trouble shooting. ATC performs analysis within a few nanometers of the surface of various products such as semiconductor LDs, tape for semiconductor processes, copper foil, and superconducting materials. ATC has been playing a key part in providing highly reliable products to customers.

Through improvements to our analysis technology of products, we have supported and accelerated technology innovation at Furukawa Electric Group.

(note 8) X-ray Photoelectron Spectroscopy (XPS): XPS is a technique that detects the photoelectrons emitted from a sample surface by irradiating x-rays, and analyzes elements and chemical bonding state within a few nanometers of the sample surface.

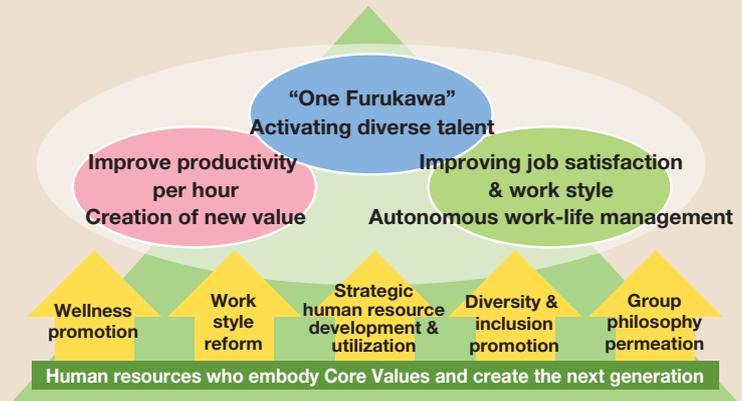


Dual Scanning XPS apparatus installed in fiscal 2018

# Aiming to Be a Creative and Very Vibrant Corporate Group by Taking Advantages of the Diverse Human Resources

To be a corporate group where everyone can work actively, continue to grow and be proud of belonging

Furukawa Electric Group has been seriously implementing various procedures and policies such as diversity & inclusion promotion and work style reform and health management, aiming at creating new values and continuous growth. This is being accomplished by stimulating a comprehensive capability based on “One Furukawa” with a common sense of values and of criterion for judgment. It is also achieved with the help of diverse human resources stimulating job satisfaction and actively taking advantage of each particular strength.



## Health Management

On May 15, 2017, Furukawa Electric Group announced “Furukawa Electric Group Health Management Declaration” with the purpose to promote the “Health Management” which is working for the strategic health management and health promotion. We have been carrying out the health management activities based on this declaration, and has been certified as the “Health and Productivity Management Organization (White 500)” for three consecutive years. And, in fiscal 2019, we were selected to “Health and Productivity Stock Selection 2019” by the Ministry of Economy, Trade and Industry and by the Tokyo Stock Exchange.

### Improvement of the employee health literacy

In the annual guidelines on health and hygiene for fiscal 2018, we have introduced “Introduction of employee health literacy improving activities coupled with the Work Style Reform and to the Health Insurance Association”, and we are carrying out various activities at all business sites.

### “Health One-Word Declaration” by all employees

As a part of the employee health literacy activity, from fiscal 2018, we requested all employees to state, at their workplace, “Health One-Word Declaration” about their intension to do or should do for health improvement. In fiscal 2018, 84% of the employee made the Health One-Word Declaration.

### Health Education Activity in cooperation with the Health Insurance Association and the Laborers’ Union

In cooperation with Furukawa Electric Health Insurance Association, the health promotion activity related to each theme is implemented by deciding a monthly theme (such as eating habit improvement and cancer prevention) at every quarter.

Also in cooperation with the Labors’ Union, under the labor and management co-sponsorship, the seminars based on age group of employees (40s: middle-age seminar, 50s: second life seminar, etc.) are held. In each program of the seminar, the educations related to the health promotion for the mind and the body, on an age base classification, are held.



Left: “Seki” State Minister of Ministry of Economy, Trade and Industry  
Right: “Maki” General Manager of Strategy Division



The Health and Productivity Awards 2019 held on February 21<sup>st</sup>



Middle-age seminar



Women’s health seminar

## Diversity & Inclusion Promotion

Since fiscal 2005, we have been continuously working for women's working environment improvement and the work-life balance promotion. In April of 2014, Diversity Promotion Section was established, which is working for the diversity and inclusion awareness enlightenment, the success of women promotion and the autonomous work-life management.

In fiscal 2018, in Yokohama Works, with the theme of "Working lithely and globally", a diversity promotion event such as lectures by directors and managers from Furukawa Electric LatAm S.A. (Brazil) and OFS Fitel, LLC (USA) in Furukawa Electric Group, and very actively opinions were exchanged.



Panel discussion by the directors and the managers in Furukawa Electric LatAm S.A. (Brazil) and OFS Fitel, LLC (USA)

## Furukawa Electric Chiba Works Was Awarded "2018 Ichihara City Commendation Project for the Work and Parenting Compatibility Supporting and Promoting Company".

Chiba Works of the Company was recognized as a commendation company by Ichihara City, for its various parenting supporting system and for supporting parenting participation by male.



Awards ceremony for the "Ichihara City Commendation project for the work and parenting compatibility supporting and promoting company"

## HK Share the Work Style Reform and Its Results

The work style reform activity which was started in 2015, has entered Phase 2 since fiscal 2018. (The figure below)

Then, an award was newly set, we started to commend and praise good activities to be helpful to other groups and to share the concept within the groups. And, "preceding case seminar" lectured

by the awarded group was held.

In the seminar titled "The first step for the work style reform", the case, that starting by sharing thoughts created a sense of unity and enabled us to actively challenge various improvements, was presented bringing the truth with their hard experience. In the follow-up questionnaire, 80% of them were "It seems to be able to work in their own group".

### Overall picture of work style reform Phase 2



Preceding case seminar

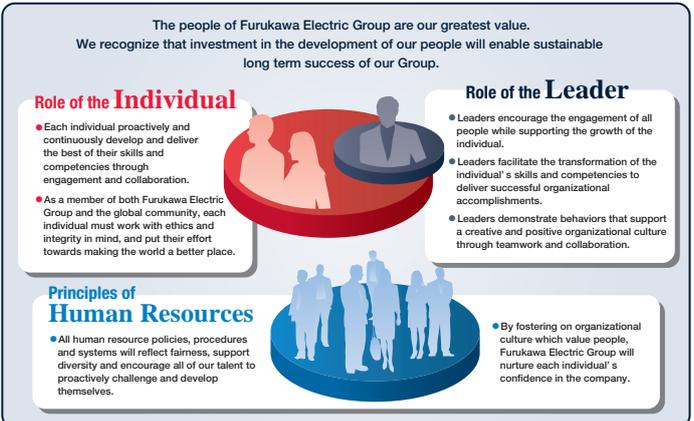
## Furukawa Electric Group Vision for Our People

Among the management related philosophy and the policy of the Group, as a consistent and basic idea of the general human resources measures, Furukawa Electric Group Vision for Our People was formulated.

We will continue to achieve the following three issues by promoting the concepts which are presented in the People Vision.

- (1) Employees, to grow autonomously and develop their careers
- (2) Leaders, to be key persons to promote the autonomous growth of the diverse human resources
- (3) Human resource departments in each affiliate, to continue to promote their human resource measures based on the People Vision

## Furukawa Electric Group Vision for Our People





## Corporate Governance

### Basic Views on Corporate Governance and Guideline on Corporate Governance

#### Basic Views on Corporate Governance

Based on the “Furukawa Electric Group Philosophy”, Furukawa Electric Co., Ltd. and the Furukawa Electric Group secure the transparency and fairness and strive to enhance its performance by promptly responding to changes in the business environment and the market through efficient management based on prompt decision making. At the same time, we ensure sound management by developing and establishing an internal control system and applying it effectively. We uphold the basic policy of seeking to expand and develop our operations on a sustainable basis and to raise corporate value through these efforts. In accordance with the following views, we seek to strengthen and enhance our corporate governance.

- i. We secure the rights and equal treatment of shareholders.
- ii. We consider interests of stakeholders including shareholders, and cooperate appropriately with them.
- iii. We ensure appropriate information disclosure and transparency.
- iv. Given its fiduciary responsibility and accountability to shareholders, the board regards the roles of independent directors important and carries out effective oversight of operation from objective standpoint.
- v. We engage in constructive dialogue with shareholders who have investment policies in accordance with interests of mid- to long-term shareholders.

#### Guideline on Corporate Governance

Based on “Basic Views on Corporate Governance”, we adopted “Guidelines on Corporate Governance” as a policy for enhancing our corporate governance.

Corporate governance  
 <https://www.furukawa.co.jp/en/company/governance.html>

#### Efforts up till now

We have been working on strengthening the corporate governance since 2008, including increasing the number of the Outside Officers. In response to the establishment of the “Corporate Governance Code” by Tokyo Stock Exchange, Inc. in June 2015, we have implemented various efforts such as the formulation of basic policies on the corporate governance and starting among which is effectiveness of the Board of Directors evaluation.

We will continue to work on the improvement of the corporate governance by the positioning and the strengthening of the corporate governance as an effort to improve the corporate value being as one of our important measures to strengthen the management.

#### Major efforts towards the strengthening of the corporate governance

2003	- The number of the Directors was reduced. (The term of service of the Directors was reduced from two years to one year) - The executive officers system was introduced.
2008	- Started the effort to increase the number of the Outside Directors.
2010	- Established the Compensation Committee.
2014	- Structured the Audit & Supervisory Board members, to 3 people from in-house and 3 people from outside.
2015	- Established the Independence Standards for the Outside Officers. - Established the Nominating/Compensation Committee, former Compensation Committee. - Started the evaluation of the effectiveness of the Board of Directors, and the summary of the result was published. (annually conducted) - Established “Guidelines on Corporate Governance”.
2016	- An Outside Director was appointed as the chairman of the Nominating/Compensation Committee. - The Chairman became the Director without the representative right of the Board of Directors. - Revision of the officer's compensation system (which consists of the basic remuneration, short-term performance-linked remuneration and mid- to long-term performance-linked remuneration). - The number of the Outside Directors was changed to the current 5 members.
2017	- As a process to evaluate the effectiveness of the Board of Directors, the Chairman conducted the interviews.
2019	- Partial revision of the officer's compensation system approved in fiscal 2016 (to aim at strengthening incentives) - Female outside director takes office. All outside directors are independent

#### Overview of Corporate Governance System

We consider that the effectiveness of the audit on the execution of the duties by the Directors is secured, based on the coordination with the accounting auditors and the internal auditing department, while maintaining the institutional independence of the Audit & Supervisory

Board Members and of the Audit & Supervisory Board from the Board of Directors. So we adopted the “Audit & Supervisory Board” type of the governance organization. And we have a “Nominating/ Compensation Committee”, majority members of which are outside directors to complement oversight function of the board.



## Oversight and Supervising

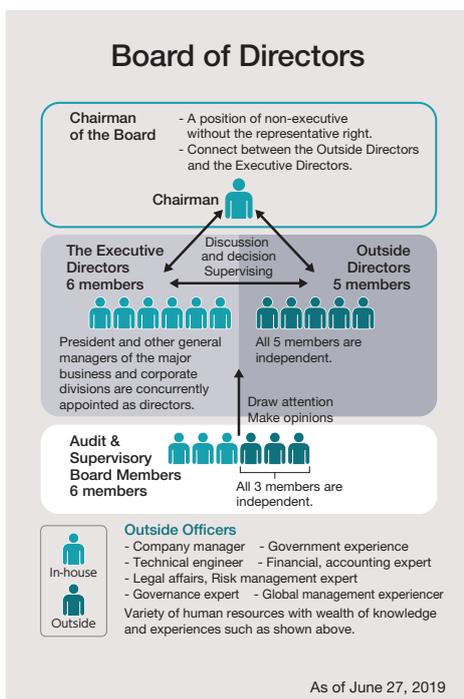
### ● Board of Directors

Given its fiduciary responsibility and accountability to shareholders, the board is responsible for promoting sustainable corporate growth and the increase of corporate value over the mid- to long-term and enhancing earnings capability and capital efficiency. The board oversees and determines the matters listed below:

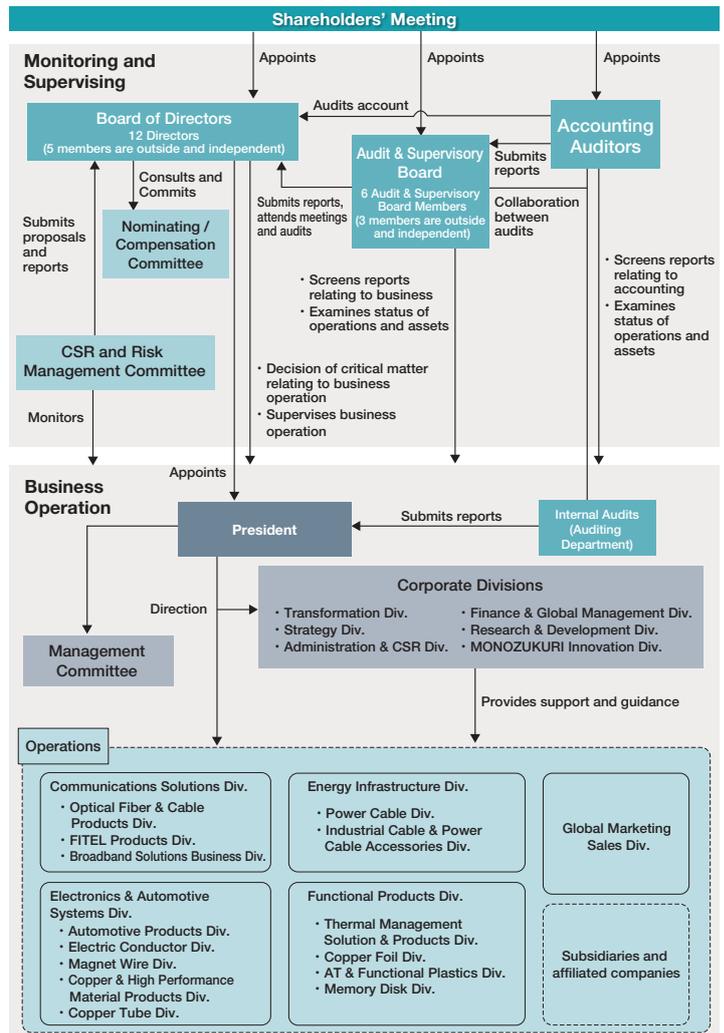
1. Determination of corporate governance-related matters;
2. Establishment and amendment of business strategies and oversight of execution of such strategies and plans by management;
3. Setting capital allocation policy;
4. Appointment and dismissal of executives including representative director and corporate vice president, and determination of the compensation of them (including delegating these to Nominating/Compensation Committee);
5. Establishment of an internal control system relating to compliance and financial reporting and risk management systems, and oversight of them;
6. Decision on important business matters;
7. Others prescribed by the applicable laws and regulations etc.

As our policy, the Outside Officers are expected to make suggestions from various viewpoints and angles in the discussion of the Board of Directors, and people with different knowledge and backgrounds are selected.

With respect to the selection of the officers, the Board of Directors makes a decision by consulting the Nominating/Compensation Committee and being based on their report.



## Corporate governance organization chart



As of June 27, 2019

## Expertise of the Outside Officers

Outside Directors	Sumitaka Fujita	Mr. Fujita has served for many years in a key positions on the management such as a Chief Financial Officer (CFO) and has a wealth of knowledge and experience on general business management including financial accounting. He also has a high perception of the corporate governance.
	Osamu Tsukamoto	Mr. Tsukamoto has a long experience of involvement in the industrial policy at the Ministry of Economy, Trade and Industry, and has a high perception on the technologies and the development of the new businesses.
	Akira Nakamoto	Mr. Nakamoto has served for long years in key positions such as President and Chairman of a major precision equipment manufacturer, and has an extensive knowledge and experience in the corporate management in general.
	Yoshiro Miyokawa	Mr. Miyokawa has served for long years in key positions such as Director & Vice President at a large pharmaceutical company, and an extensive knowledge and experience in corporate management, compliance, and corporate governance.
	Yukiko Yabu	Ms. Yabu has served as outside officer of several listed companies, and has a wealth of experience and advanced knowledge of customer-oriented marketing and product development based on her experience with a leading electrical appliance manufacturer.
Outside Audit & Supervisory Board Members	Yuzuru Fujita	Mr. Fujita has served for many years in key positions such as President and Chairman of a life insurance company and has an extensive knowledge and experience in overall corporate management, including the financial accounting.
	Takashi Tsukamoto	Mr. Tsukamoto has served for many years in key positions such as Chairman and a director in charge of finance in a financial institution and has an extensive knowledge and experience in overall corporate management, including financial accounting.
	Kunihiko Sakai	Mr. Sakai has a high perception in fields such as: the corporate governance, the legal risk associated with management and its compliance to regulations, capitalizing his long experience as a legal professional including its foreign one.

## Nominating/Compensation Committee

We have established the Nominating/Compensation Committee with a majority of the members from the Outside Directors, aiming to supplement the supervisory function of the Board of Directors. The Committee deliberates succession plan of the officer and of the president, the officer compensation and others, aiming to ensure the objectivity and transparency regarding these matters.

Recently, in 2017 the new President was appointed based on the succession plan. In 2019, according to our policy that the Outside Officers with different knowledge and backgrounds are selected, a candidate for female Director was selected, and the officer's compensation system was partially revised to strengthen the linkage with performance. These were resolved at the General Meeting of Shareholders or the Board of Directors after the deliberation at the Committee.



## Outside Officers Meeting

The Outside Officers meeting is regularly held for the purpose of exchanging information, sharing recognition among the Outside Officers based on the objective position, and for reporting their opinions shared with the Board of Directors if necessary.

The Committee consists of all Outside Directors and Audit & Supervisory Board Members, and the Secretary of the Outside Officers is elected from the independent outside directors.

In fiscal 2018, the meeting was held three times with discussion about the management issues in general and the management of the Board of Directors.

## Audit & Supervisory Board

Audit & Supervisory Board and each its member auditor collect information about management under statutory investigation authority and report and express their views to the board meetings and the management from an independent and objective standpoint as a fiduciary to shareholders.

Auditors ensure coordination with internal audit department through regular meetings, and report the policy, plan and result of auditing to the board regularly.

Full-time auditors attend the meetings such as Management Committee which decides major business matters, and they report information obtained from these audit activities to the non-Full-time and outside auditors.

We strengthen our audit function by appointing an assistant staff to the auditors who is dependent of management.

At present, the Audit & Supervisory Board consists of 6 members (3 members are outside and independent).

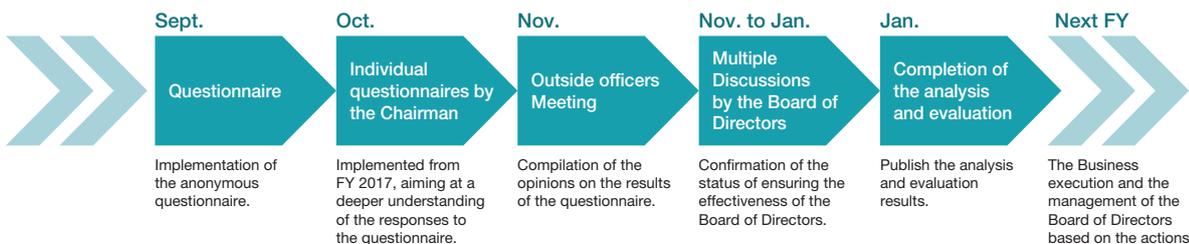
## Effectiveness of the Board of Directors evaluation

In every year since the fiscal 2015, we have been working on analyzing and evaluating the effectiveness of the Board of Directors for the purpose of improving the function of the Board of Directors, through a continuous process. Through the process, the necessary measures are taken in order to improve or further strengthen the issues reported through the verification on the suitability of the function as the Board of Directors.

Since fiscal 2017, in addition to have a questionnaires for all the members of the Board of Directors and the Audit & Supervisory Board members, an individual interview was conducted by the Chairman, for the purpose of a deeper understanding of the response to the questionnaires. Thus more substantive analysis and evaluation were implemented.

Evaluation items on the effectiveness of the Board of Directors
- Effectiveness of the Board of Directors.
- Management of the Board of Directors.
- System related to support and cooperation with the Outside Officers.
- Roles and expectation for the Audit & Supervisory Board Members.
- Relationship with the shareholders and other stakeholders.
- Others (The Board of Directors in general, individual and peer evaluation, Responsibility of the Board of Directors)

### FY 2018 Flow of the Board of Directors effectiveness evaluation.



## Business Operation

President is responsible for management of our whole business operation as a chief executive under the board's oversight.

Our business consists of 14 business divisions, and General Managers of each division are responsible for leading each business operation including subsidiaries and affiliated companies management.



We also appoint General Managers of Communications Solutions Division, Energy Infrastructure Division, Electronics & Automotive Systems Division and Functional Products Division in order to supervise closely related business divisions.

In addition, we appoint General Manager of Global Marketing Sales Division that are responsible for our group's sales and marketing entirely, and General Managers of Corporate Divisions that are responsible for planning group strategy and assisting operation.

These officers are members of the Management Committee, which is the highest decision-making body of business operation.

Management Committee deliberates and determines major operational matters. Further, their business affairs and operation are quarterly reported to the Committee to foster common understanding of company business among them and integrated business operation as a whole.

These business affairs and operation are also quarterly reported to the board.

### Process of Determining Officers' Compensation and Avoiding Conflict of Interests

At Furukawa Electric, the policy on officers' compensation and details of each officer's compensation are determined by the Nominating/Compensation Committee consisted the majority of the committee comprising outside directors, based on the delegation from the Board of Directors in order to ensure objectivity and transparency of the decision-making process.

In addition, in the case where Directors conduct transactions involving a conflict of interests, they must be based on approval at the Board of Directors' meeting as required by law.

### Reinforcing Internal Controls

Furukawa Electric establishes, develops and operates its internal controls based on the following principles:

#### 1) Efficient Execution of Responsibilities

After setting concrete management goals for the mid-term management plan and over the course of the fiscal year, all those responsible for operational performance execute their responsibilities toward achieving these goals and regularly report their progress to the Board of Directors.

#### 2) Compliance System

Upholding the basic philosophy of compliance with ethics and prevailing laws as laid out in the "Furukawa

Electric Group Philosophy" and the "Furukawa Electric Group CSR Code of Conduct", we, with the President assuming the highest responsibility, promote compliance activities including in-house education and efforts to prevent and detect legal violations through our CSR and Risk Management Committee, which is under the immediate control of the Board of Directors, and the Administration & CSR Division. We also have an Internal Reporting System for the early detection and correction of compliance violations, and establish a system not to treat the person unfavorably because of reporting.

#### 3) Risk Management System

We have established our risk management system and management method in the "Basic Regulations on Risk Management and Internal Control". In addition, we have established a system in which the CSR and Risk Management Committee, chaired by the President, grasps an overall picture of the risks associated with the business operations of Furukawa Electric Group and determines effective methods for evaluating and managing these risks.

#### 4) Information Management System

We appropriately manage and store records and documents related to important decisions, in compliance with prevailing laws and internal rules. With respect to other information related to our operations, the Information Security Committee establishes uniform standards and operates an information management system.

#### 5) Group Company Management

In accordance with the "Regulations on Group Management Control", administrative managers of individual subsidiaries shall be appointed, and they shall require own subsidiaries reporting subsidiaries' business conditions on a regular basis, and offer management guidance to subsidiaries. Predetermined matters shall require approval of us. We also carry out a mid-term management plan and budgets for single fiscal years, risk management, and compliance as Furukawa Electric Group.

#### 6) Securing Appropriateness of Financial Reporting

Based on the "Basic Regulations on Risk Management and Internal Control", we will establish the "Furukawa Electric Group Basic Philosophy for the development and evaluation of an internal control system, to ensure the appropriateness of financial reporting (J-SOX Core Policies)". At the same time, the system and responsibilities shall be clarified for the system's construction, development, operation, and monitoring.

## Directors and Audit & Supervisory Board Members (as of June 27, 2019)



### Akihiro Fukunaga

Director  
Corporate Vice President  
General Manager, Finance & Global Management Division

### Satoshi Miyamoto

Director  
Corporate Senior Vice President  
General Manager, Administration & CSR Division

### Hiroyuki Ogiwara

Representative Director  
Corporate Senior Executive Vice President  
Chief of Transformation Division

### Ken Maki

Director  
Corporate Vice President  
General Manager, Strategy Division

### Osamu Kuroda

Director  
Corporate Senior Vice President  
General Manager, Global Marketing Sales Division

### Yoshiro Miyokawa

Director  
(Outside, part-time)

### Osamu Tsukamoto

Director  
(Outside, part-time)

### Keiichi Kobayashi

President (Representative)



**Nozomu Amano**  
Audit & Supervisory Board Member  
(Full-time)

**Yoshiaki Mizota**  
Audit & Supervisory Board Member  
(Full-time)

**Takashi Tsukamoto**  
Audit & Supervisory Board Member  
(Outside, part-time)

**Takahiro Kashiwagi**  
Audit & Supervisory Board Member  
(Full-time)

**Yuzuru Fujita**  
Audit & Supervisory Board Member  
(Outside, part-time)

**Kunihiko Sakai**  
Audit & Supervisory Board Member  
(Outside, part-time)

**Mitsuyoshi Shibata**  
Chairman of the Board

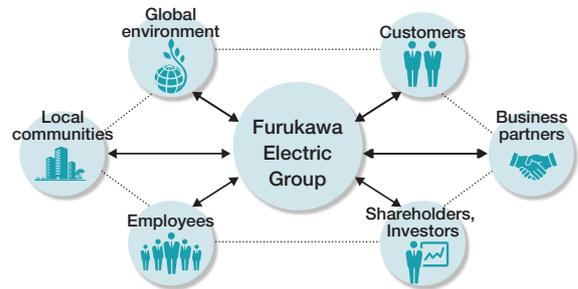
**Sumitaka Fujita**  
Director  
(Outside, part-time)

**Akira Nakamoto**  
Director  
(Outside, part-time)

**Yukiko Yabu**  
Director  
(Outside, part-time)

# Interactions of the Stakeholders with Furukawa Electric Group

The Group strives for better communications with stakeholders in various areas and for an appropriate monitoring of its business activities, then to work to solve social issues such as SDGs, and to fulfill the corporate responsibilities.



## Global environment

The Group has been dealing with not only its own renewable energy, its energy conservation and its biodiversity, but also cooperating with the government affiliated requests for the environment related business participation or the surveys, cooperating with the customers' environmental activities and the environmental conservation activities through the value chains.

Through these activities, we are implementing the climate change countermeasures, the energy conservation, the sustainable resource recycling and the chemical substance management.

Renewable energy ratio **17%**



Within the electricity used in the domestic group, the renewable energy such as the hydroelectric power is at a high rate of 17%. (Refer to Page 66)



Related SDGs



## Customers

The Group conducts better communication through dialogues with the customers in daily transactions, the dispatch of information using the websites of the Group companies and dialogues at the technology exhibitions and the trade shows.

The quality maintenance and improvement of the products, the operation and the service are preconditions for the business execution, in addition, we are contributing to the customers' business solution by providing the socially useful products and services using our wide range of technologies and know-how.

“Automotive Engineering Exposition 2019 Yokohama” **2,356** visitors



At the exhibition “Automotive Engineering Exposition 2019 Yokohama” at Pacifico Yokohama from May 22, 2019, we have introduced our technology to 2,356 or more visitors.



Related SDGs



## Business partners

In the Group, we call our business suppliers as the “Partners” to collaborate the value creation. The annual partners meeting, dialogues in daily transaction, the CSR questionnaire and the feedback interviews for the partner assessment results are held to ensure good communication.

Based on the “CSR Deployment Guideline for Business Partners”, we are promoting the fair transactions in compliance with the laws and regulations and to build the healthy relationships.

Partner assessment **213** companies



The results of fiscal 2018 partner assessment were fed back among 213 companies. (Refer to page 48)



Related SDGs



## SDGs (Sustainable Development Goals)

Regarding the social issues that were adopted by the United Nations in 2015 as international common goals to be solved by 2030, it consists of 17 Goals and 169 targets.

Also in Japan, actions are being taken it at the government level and in many companies and organizations.

SUSTAINABLE DEVELOPMENT GOALS  
17 GOALS TO TRANSFORM OUR WORLD



### Shareholders and Investors

The general shareholders meeting is well placed as an important occasion for the direct dialogues with the shareholders. We also hold the financial results briefing and the mid-term management plan briefing for the institutional investors and the securities analysts. Furthermore, we conduct tours such as a plant tour for the individual shareholders.

Through these dialogues, we will carry out the disclosure of appropriate information at the appropriate time and make efforts to improve the value of the Group.

### Tour for individual shareholders 40 participants



In the plant tour for individual shareholders in fiscal 2018, 40 individual shareholders visited Yokohama Works. (Refer to page 50)



Related SDGs



### Employees

Information distribution from the Group's management to the employees is implemented through avenues such as the Group newsletters, the in-house magazine and the intranets. And as a two-way dialogue, the management briefing and the "Dialogue with the President" are carried out at each plant and office.

Through these information distributions and dialogues, in addition to dealing with the operational issues, we are promoting actions to health issues including the mental health and the occupational health and safety, to the human resource development and the fair evaluation, to the variety of working styles and to support for the balancing of work and life.

### Health and Productivity Stock Selection 2019 Recognized for the first time



The Company was recognized by the "Health and Productivity Stock Selection 2019" for the first time. (Refer to page 30)



Related SDGs



### Local communities

The Group has been conducting factory tours, contributing to the sports and the traditional events, the co-sponsorship, collaboration and co-working with local NPOs and Satoyama, "village forest" conservation initiative with the local communities.

Through these activities, we are promoting the next-generation development, the sports and the culture promotion and the natural environment protection, and living in harmony with local communities.

### Nikko Waraku Odori Dance Festival 105 years



In Nikko Works, in August of every year, with the participation of the local people, Nikko Waraku Odori Dance Festival has been held. It started in 1914, and 2018 is the 105th year.



Related SDGs

# CSR Management

## Basic Policy and CSR Code of Conduct

Each of the companies in Furukawa Electric Group develops CSR activities in line with the following Group basic policy. In order to follow in conducting corporate activities based on Furukawa Electric Group Philosophy and Core Value, the CSR Code of Conduct defines fundamental rules of behavior for Furukawa Electric Group executives and employees from the perspective of corporate social responsibility.

### Furukawa Electric Group Basic Policy on CSR (Revised March, 2011)

Based on the Furukawa Electric Group Corporate Philosophy,

- We will operate our businesses in harmony with society and the environment and endeavor to create social value through technological innovation, complying with laws, social norms, and ethics as a member of the international community.
- We will strive to maintain and build sound and friendly relationships with all of our stakeholders and contribute to the sustainable development of society.

### Furukawa Electric Group CSR Code of Conduct (Revised April, 2019)

1. Human rights
2. Working conditions and environment
3. Environment
4. Products and services
5. International businesses and transactions
6. Fair competition
7. Relations with customers, partners, and society
8. Management and preservation of Company assets
9. Disclosure of information
10. Duties and obligations of senior management and employees

CSR  
<https://www.furukawa.co.jp/en/csr/guideline/>

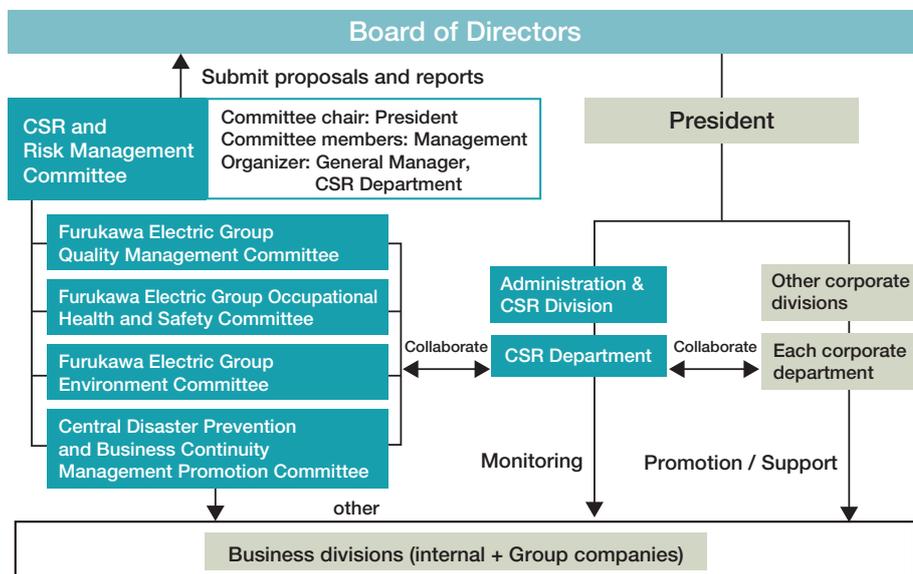
## Basic Approach

In order to contribute to the realization of a sustainable society, we need to understand the social responsibilities of Furukawa Electric Group and implement policies in line with the Basic CSR Policy. We will promote CSR initiatives alongside our business activities so that each and every Group employee is able to take the lead in putting CSR initiatives into practice.

## CSR Promotion Framework

Furukawa Electric Group has established the CSR and Risk Management Committee, which comprises members of management, as the structure for supervising and promoting CSR activities throughout Furukawa Electric Group, including risk management, internal control, compliance and social contribution. We have set up the CSR Department within our Administration & CSR Division.

### Promotion Framework



This department promotes CSR by facilitating communication among various committees and corporate departments.



**Targets and Results (Risk Management / Internal Controls / Compliance)**

😊 Achieved    😐 Partially achieved    ☹ Not achieved

FY 2018			FY 2019
Targets	Results	Achievement	Targets
<b>Enhancement of the compliance functions associated with the global business expansion</b> - Implementation of the compliance related education in the overseas high risk area	- In Philippines and 3 cities in China, compliance educations for the group company staffs were conducted.	😊	<b>Enhancement of the compliance functions</b> - Implementation of the compliance educations in overseas high-risk areas
<b>Strengthening overseas risk management</b> - Extension of the overseas emergency response manual	- Formulated the countermeasure manual in the event of overseas terrorism, etc.	😊	<b>Strengthening the overseas risk management</b> - Expansion of the manuals for countermeasures on emergencies in overseas areas
<b>Strengthening the cyber security countermeasures</b> - Implementation of the emergency response training based on the activity policy of the "Furukawa Electric CSIRT <sup>(note)</sup> ".	- The cyber incidents countermeasure training was implemented by members in Furukawa Electric CSIRT and in headquarter divisions.	😊	<b>Strengthening the cyber security countermeasures</b> - Strengthening the cooperation in the occurrence of cyber incidents and strengthening the countermeasure process for normal times.

(note) CSIRT: The abbreviation of "Computer Security Incident Response Team". The team is prepared to cope with the occurrence of cyber incidents.

**Message** from  
the **General Managers**



**By promoting the CSR Code of Conduct revised in this spring, we will promote CSR activities in accordance with the basic policy.**

**Yasuhiro Yonezawa**  
General Manager, CSR Department,  
Administration & CSR Division

Furukawa Electric group has been conducting global businesses. As the business environment changes more and more rapidly, it is necessary to steadily fulfill the responsibility to the stakeholders while adapting changes being aware of various stakeholders. Under these circumstances, the CSR activities are an important foundation for the business growth and the continuation of Furukawa Electric Group. Based on

our Group Philosophy, Furukawa Electric Group has established Basic Policy and Code of Conduct regarding the CSR and has consolidated the promotional structure and the mechanism. As the person in charge of the CSR department, I will continue to promote the CSR activities by strictly observing these functions.

# Risk Management

## Overview of the Risk Management and its Structure

Our CSR and Risk Management Committee conducts regular risk assessments to determine what risks exist, define important risks that require a companywide response and prioritize measures to counter these risks. Through specialized committee activities in segment-specific areas—environment, quality, safety, disaster prevention—we are working to manage the risks that relate to our business activities.

**Important Companywide Risks**

- Compliance
- Quality control
- Large-scale disasters, such as earthquakes
- Information security
- Affiliated company controls

In the event a large-scale disaster occurs or other such risk materializes, Furukawa Electric Group will establish Emergency Response Headquarters, headed by the president, and Site Response Headquarters that defines each department's roles and clarifies them ahead of time. We also conduct regular exercises on preparing initial action manuals, stockpiling necessary supplies, and setting up communication structures and systems to confirm people's safety.

### BCM (Business Continuity Management) activities

#### [Promotion in obtaining ISO certification]

In order to strengthen the business continuity activities, we are actively working to obtain ISO22301 certification, the international standard for the business continuity management systems (BCMS). In addition to the already certified “laser diode products business” (Chiba Works) and “copper wire products business” (Mie Works) and “copper winding products business for motor” (Mie Works), in fiscal 2018, the “copper and copper alloy products (the original products) business” (Nikko Works) obtained the certification.



Exercise simulating a large-scale earthquake (Nikko Works)

#### [Joint training between the head office (Emergency Response Headquarter) and the site office (disaster area)]

When a site office suffers severe damages due to a natural disaster, it is necessary that the entire company works as a whole for early business recovery by closely coordinating the Emergency Response Headquarter at the headquarter and at the site office where is the disaster area. For the preparation of this incident, we conduct in every year a joint training between the head office (Emergency Response Headquarter) and the site office (a disaster area). In fiscal 2018, simulating that Mie Works was damaged by a major earthquake, the initial response exercise was conducted in the role-playing form by the cooperation of the task force and the manufacturing

sectors in the disaster area and the Emergency Response Headquarter and the marketing sectors in the head office. Being restricted in communication between the disaster area and the head office only by a mobile phone prioritized in disaster, and we had a simulated experience of the difficulty in the initial response in the event of a disaster. Based on the issues revealed from in the exercise, we will strive to further strengthening the resilience for the important business continuity by promoting manual development and education by functions that are aware of the collaborations between departments.



A scene of the exercise in the disaster site.

Only a mobile phone prioritized in disaster is allowed for individual communication.

A scene of the exercise in the head office.

#### [Disaster headquarters training at the Head Office]

In the Emergency Response Headquarter training for the head office employees, after the safety confirming call training in the initial response training, the industrial doctor conducted a sanitary lectures on triage and others, also the training on how to use AED, training on a hand-held radio for disaster prevention stockpiles and small generator operation were carried out. In the 4th Walking Home Training, starting at the head office, we actually walked along 4 routes (destination: Shinjuku station, Ueno station, Gotanda station and Kinshicho station) and



identified the dangerous places at the time of disaster, respectively. From the participants we received follow-up feedback. “The safer route could be identified.” “The early identification of the shelter point and the restroom location are necessary.”

## Information Security

Information security is considered one of the highest priority risks Furukawa Electric Group has to handle. Therefore we promote various countermeasures through intergroup collaboration by exchanging information among the related divisions, from the perspectives of protecting information systems and intellectual property as well as information management.

### [Cyber security]

In response to the cyber security risks that are becoming more sophisticated and serious year after year, from the end of fiscal 2017, we have been implementing the activities of the “Cyber Security Special Committee” consisting of the departments operating the mission-critical tasks and of the activities of the “Furukawa Electric CSIRT<sup>(note 1)</sup>” to respond quickly in the event of incident occurrence. In the last year, the Cyber Security Expert Group compiled a manual by summarizing the results of the discussions on the cyber security responses, and conducted the exercise simulating the occurrence of the incidents and reflecting the outcome in the issues and knowledge in the cyber security response manual. Furukawa Electric CSIRT was registered with the Nippon CSIRT Association in July of the last year, and we are striving to maintain and to improve the cyber security by quickly responding to our large and small incidents. In fiscal 2018, business email frauds, which attempted money fraud by sending fake emails pretending to be a business partner, frequently occurred. Then attention was given to domestic and to overseas affiliates, and the thorough awareness of the preventive measures was confirmed with each affiliate.

### [Private information protection]

With the enforcement of GDPR (European General Data Protection Regulation)<sup>(note 2)</sup> the personal information holding status in each company of the Group was confirmed and the protection measures for the personal information was reviewed. Even companies outside the EEA<sup>(note 3)</sup> may be subjected to the GDPR, if the company has personal data. In order to comply with the GDPR, the CSR Department and Legal Department worked together to determine the correspondence matters to be implemented by each group company and to ensure

thorough compliance at each company.

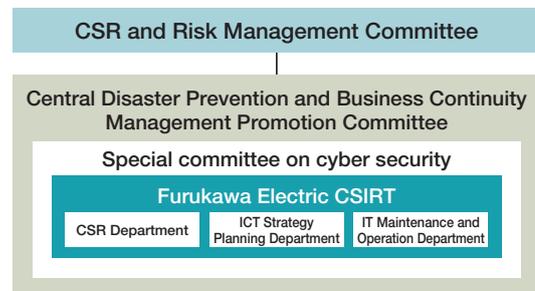
## Intellectual Property Risks

The Company aims to stabilize the management by strategically creating the intellectual property rights based on the patent portfolio management that grasps the trends in the other companies, also by decreasing the intellectual property risks.

The intellectual property risks are divided into four categories: “Rights infringement risks”, “Counterfeit products risks”, “Contract risks” and “Technology leakage risks” and continuously arousing risk responses. For example, against the “Technology leakage risks”, the following measures are taken: “Technology concealment of the development site and the production site”, “Information maintenance strengthening with the time stamp system”, etc.

We also develop the intellectual risk reduction activity in Furukawa Electric group globally, based on the implementation of the systematic training of Furukawa Electric Group in domestically and internationally, the regular issuance of the newsletters introducing efforts to reduce intellectual property risks, by the President’s awards for excellent inventions and activities, etc.

### Organizational structure on cyber security



(note 1) CSIRT: The abbreviation of “Computer Security Incident Response Team”. The team is prepared to cope with the occurrence of cyber incidents.

(note 2) GDPR (European General Data Protection Regulation)

The law in the EU on the private information protection was enforced in May 2018. Emphasizing the basic human rights of individuals, and established to strengthen the protection of the personal data for all individuals (citizens and residents) in the EU. Stipulating the processing and transfer of the personal data, the provisions for the application of non-EU and high fines for violation are set.

(note 3) EEA: European Economic Area. The EU 28 countries and Norway, Iceland and Lichtenstein.

## Challenges and Future Policy

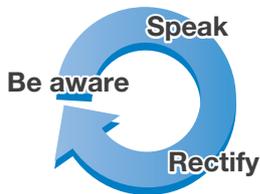
Following our international business development, risks that Furukawa Electric Group faces are becoming more diversified and complicated each year. We particularly recognize that risks inherent in overseas operations—mainly in emerging countries—and risks from the supply chain standpoint are our top priority issues, and we will be strengthening our countermeasures against them.

# Compliance

## Basic Approach

Furukawa Electric Group regards compliance as “not only observing laws and regulations, but also as acting in accordance with the values and ethics required of the company and its employees as responsible members of society”. Each and every employee is encouraged to perform day-to-day compliance activities in line with our three musts for compliance activities: to “be aware”, “speak” and “rectify”.

### Three Musts for Compliance Activities



#### 1) Be aware

- Is this in line with the philosophy and CSR Code of Conduct?
- Is this an improper practice?
- Does this run counter to society's requirements and expectations?

#### 2) Speak

- Do not neglect it.
- Talk about it openly.
- If still not sure, take it to your boss.

#### 3) Rectify

- As soon as you become aware of it, fix it.
- Always improve.

## Training and Raising Awareness among Employees

We conduct a host of training and awareness activities in the aim of instilling compliance awareness among all employees.

### Compliance Education

Our primary shared educational materials are the Furukawa Electric Group CSR Code of Conduct and its corresponding Furukawa Electric Group CSR Compliance Handbook. We distribute this handbook to Furukawa

Electric Group employees and take many opportunities to make use of it. We conduct compliance education for employees at every level of the Company, from new recruits to directors. At the same time, we hold theme-based group training and e-learning courses, and conduct groupwide compliance education.

### Education Results (FY 2018)

	Course Name	Target	Participants
Hierarchy-based education (note 1)	Training for executives	Newly appointed executives	6
	Training for managers	Newly appointed managers	69
	Training for managers and assistant managers	Newly appointed managers and assistant managers	53
	Training for new employees	New employees	104 (note 2)
Theme-specific education	Competition laws and anti-bribery regulations		541
	Subcontractor Law		532
	Security trade control		1,125

(note 1) In hierarchy-based education, manager training and new employee training includes education on human rights.

(note 2) Participants apply to Furukawa Electric only.

## Initiatives in Compliance Months

Furukawa Electric Group has designated October and November as Compliance Months, during which we implement measures aimed at tackling the variety of compliance issues faced by companies across our Group.

### Principal Initiatives during Fiscal 2018 Compliance Months

#### Main Initiatives at Furukawa Electric

#### 1 Conduct workplace self-checks according to section-specific checklist

##### <Section-Specific Checklist>

- 1) Anti- Monopoly Act, 2) Worker Dispatching Act
- 3) Subcontracting transactions, 4) Occupational safety
- 5) Asset protection, 6) Information security

#### 2 Conduct workplace meetings

#### 3 Courses on competition laws and anti-bribery regulations

#### 4 Submission of Compliance Pledge (for assistant managers, managers and above)



## Employee Compliance Awareness Surveys

We have biannually continued to implement compliance awareness surveys at Furukawa Electric and affiliates in Japan. Designed to gauge employee awareness and understanding of compliance, these surveys aim to encourage recognition of compliance. Feedback is given on the results of the survey to our Group companies and Furukawa Electric divisions, and the results are used to make proposals for compliance measures at each organization. In fiscal 2018, as in fiscal 2016, we conducted compliance awareness survey based on CSR Code of Conduct.

## Internal Reporting System

Furukawa Electric Group has introduced an internal reporting system to earlier detect and correct illegal acts. The Company has in place an internal reporting desk as well as an external reporting desk that makes use of outside third-party institutions (the Furukawa Electric Group Hotline), both of which allow employees to make reports anonymously. An internal reporting secretariat manages the content of such reports stringently, taking ample care to prevent people making such reports from suffering any negative impacts, looking into issues swiftly and taking appropriate action. In fiscal 2016, we newly set up external reporting desks for oversea affiliates, preparing the environment easy to use them.

## Security Trade Control

Furukawa Electric Group considers security trade control to be one of its most important responsibilities as a company with global business operations. In accordance with the laws and regulations that make up the international framework on security trade control (the export control regime), we have improved and strengthened our management systems for goods and technology that can be converted to weapons or military uses.

In exporting products and providing technology, we conduct transaction screenings based on each company's Security Trade Control Regulation to ensure compliance with relevant legislation and are careful to prevent circumvent to countries of concern.

## Anti-Bribery

In 2012, the "Furukawa Electric Group Anti-Bribery Statement" was formulated, and the "Furukawa Electric Group Anti-Bribery Guide" was published in the same year (Revised to the 2nd edition in May, 2018). Based on this, the activities aiming at establishing the bribery risk management system for the entire group are implemented.

### Overseas compliance seminar

From fiscal 2014, we started to conduct group-type compliance seminar focused on competition law and anti-bribery taking account of local laws and customs. By fiscal 2015, we held the seminar in China. In fiscal 2016 we held it in Thailand and in fiscal 2017 in Indonesia. In fiscal 2018, the seminar was held in China (Tianjin, Shenzhen and Shanghai) and Philippines. 228 people from 23 companies participated, mainly local sales people and purchasing people of the local companies. The local lawyers gave lectures in the local languages and discussions on compliance were carried out.



## Challenges and Future Policy

Regarding the various legal compliance measures we have taken to date, we recognize as a Group that our task is to expand the scope of participation of Group companies. Going forward, we will try to raise compliance awareness by focusing on more effective education content with a Group perspective and enhancing its global implementation system. We will also hold more compliance seminars taking account of local laws, languages and customs, encouraging individual initiative under the slogan "Think and conduct compliance together".



## Relations with Our Customers

### Basic Approach

Each of the Company's divisions has acquired ISO 9001 certification. We have been contributing to the society by introducing the processes of ISO9001, and constantly striving to improve quality by standardizing operations in order to provide good products and services from the customers' prospects.

Going forward, we will continue endeavoring to further enhance "quality power" throughout Furukawa Electric Group by developing products that are attractive to our customers, based on a policy of Group-focused management.

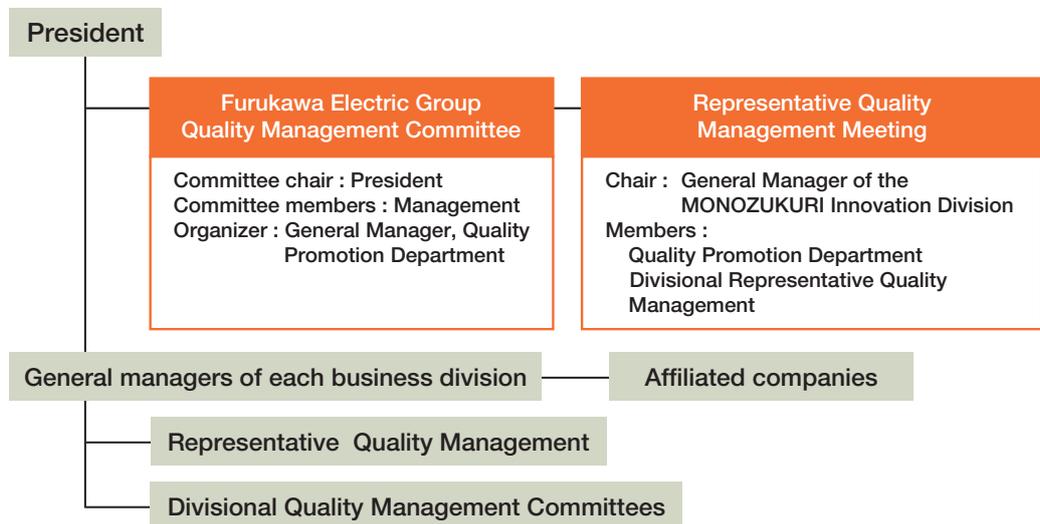
### Quality Management Policy

At every stage of our operations, from research and development to manufacturing, sales, customer service and management, in all sections and all hierarchies, we always strive to adhere to a PDCA management cycle based on actual facts, maintain and improve our products, customer services and the quality of our operations and put our management policies into practice.

### Organizations for Improving Quality

Furukawa Electric has established Furukawa Electric Group Quality Management Committee, which is chaired by the president, as the topmost body for promoting quality management at Furukawa Electric Group level. Directed by this committee, Divisional Quality Management Committees led by divisional heads promote ongoing efforts to maintain or improve the quality of our products, customer services and operations.

Promotion Framework



### Targets and Results (Quality)

😊 Achieved    😐 Partially achieved    😞 Not achieved

FY 2018			FY 2019
Targets	Results	Achievement	Targets
<b>Strengthening of fundamental Quality Power</b> - Reduce "failure costs" by 10% from fiscal 2017	- The expansion of the Quality Strengthening Project activities within the divisions were conducted.	😊	<b>Committed to achieving the quality expected by customers!</b> - Reduce "failure costs" by 10% from fiscal 2018

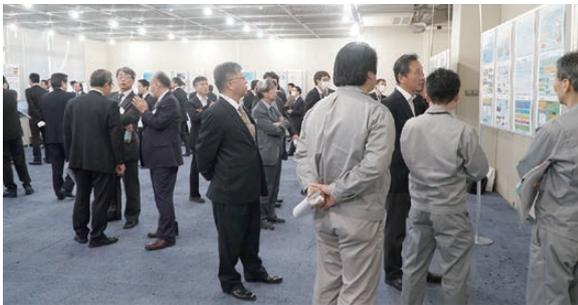


## Quality Strengthening Project

The “Quality Strengthening Project”, that has been underway for five years, sets the important themes related to the “failure costs” in each business division (including the supervisory affiliates) and the improvement is promoted by the team activities.

In fiscal 2018, “Problem Solving Process Guidelines” as a guide for project activities was revised to be more practical, and along it improvements were promoted.

At the end of the fiscal year, as an event of the Group, the Activities Reporting Meeting was held to share the improvement case examples in all business divisions.



Activities Reporting Meeting -Poster session-

## Risk Free Design (RFD) Project

In order to achieve the quality expected by customers, it is important to identify problems at the design and development stage and to take appropriate measures before starting the production.

In this project, we are working to improve the ability in identifying problems and in solving it by the designing and developing engineers, also improving the process for its effective implementation.

In fiscal 2018, its second year, the frequency of the workshop for the ability improvement was increased, aiming to spread this concept to many designing and developing engineers. In addition, we have started to improve the process in accordance with the “Guidelines for Design, Development and Changed Processes”, established in the 1st year.



Workshop

## Issues and the future policy

In order to achieve the quality expected by customers, two projects will be continuing.

In the “Quality Strengthening Project”, the quality improvement activities emphasizing the problem solving process are in progress. The activities, for further understanding and for enhancement of the application of the problem solving process, will be promoted.

The “Risk Free Design (RFD) Project” is planning to start the workshop in all business divisions this year. In addition, the process in accordance with the “Guidelines for Design, Development and Changed Processes” will be improved.

And, in light of the recent quality irregularities in Japan’s manufacturing industry, Furukawa Electric Group will continue to strengthen “quality compliance” and “quality governance” by setting “guidelines” which prescribed what shall be followed.

## Message from the General Managers



**In order to “achieve the quality expected by customers”,  
we will make continuous improvement in all processes.**

**Kazuhisa Kashihara**

General Manager, Quality Promotion Department,  
MONOZUKURI Innovation Division

In light of many press reports related to the quality irregularities in other companies, we will promote the quality improvement activities on the major premise of the quality compliance. On top of that, everyone will be concerned with the quality expected by customers and promote the activity to achieve them.

In fiscal 2019, while strengthen the quality governance such as clarifying the implementation items in the shipping process, and continuing to promote quality improvement measures including the two projects shown in this page, we aim to achieve the quality expected by customers.

# Relations with Business Partners

## Optimum Purchasing on a Steady, Ongoing Basis

Furukawa Electric Group procurement policy is to establish strategic relationships with business partners to ensure optimum purchasing on a steady, ongoing basis. By purchasing at low prices and entering long term contracts based on proactively reviewing the material specifications, we promote the stable and continuous optimal purchasing.

### Furukawa Electric Group Procurement Policy

We will realize the optimal procurement for Furukawa Electric Group through global partnerships by:

1. Conducting CSR activities and full compliance in purchasing
2. Building strategic relationships with business partners aimed at stable and continuous optimum purchasing
3. Expanding Group and global procurement
4. Constructing BCM for stable procurement and purchasing of raw materials, materials and parts
5. Promoting continuous cost reduction activities in line with business strategy

## Conducting Training on Subcontracting Transactions

In order to forge sound relationships with business partners through fair transactions that comply with rules and regulations, Furukawa Electric Group provides training for employees on subcontracting transactions. In fiscal 2018, the training courses which have been previously conducted and the employee education which newly incorporates e-learning were conducted, and we aimed to make thoroughly known the contents of the Act against Delay in Payment of Subcontract Proceeds, Etc. to Subcontractors.

## Partners Meeting and Partners Evaluation Scheme

Furukawa Electric seeks to deepen awareness among our business partners through regularly held Partners Meeting, where we explain the state of the Company, our procurement policy and individual company management strategies. For fiscal 2018, this meeting was held in June and was attended by 57 main business partners. In addition to the existing “Excellent Partner Awards”, we have established the “Group Global Partner Awards” and promoting the activities mindful of the group global procurement. We also evaluate main business partners on the basis of quality, technology, price, delivery system, degree of social contribution and credit condition, and then, we provide feedback on our findings, in partners meeting. In addition, we discuss the results of our evaluations with them to more closely align our awareness of procurement activities. As part of that, we accelerated the activities of Procurement Logistics in fiscal 2018. By selecting the best means of the transportation within the value chain, such as the effective use of the returning vehicles,

we are continuing to deal with the cost reductions, CO<sub>2</sub> reductions during procurements, and “the risks of the soaring logistics costs and becoming difficult to transport”.

In fiscal 2018, we evaluated some 213 business partners and provided feedback to them. Furthermore, based on the results of the assessment and our own experiences during the suspended production that resulted from snow damage at our Nikko Works, we requested ongoing cooperation from certain business partners on business continuity and stable supply initiatives.

## Promoting CSR in procurement activities

We are promoting the ESG procurement activities in mindful of the “Environment” and the “Social” issues. Based on our CSR Deployment Guideline for Business Partners, we engage in procurement activities with “full legal compliance and fair trading practices”, “consideration for human rights, safety and the environment”, “reduction of an environmental impact” and “elimination of conflict minerals”. We are also continually providing encouragement at partners meeting by explaining the state of our efforts to our business partners, asking for their cooperation with our activities, and so on.

## Value chain BCM (Business Continuity Management)

Furukawa Electric conducts regular questionnaire surveys on its main partners about their BCM measures. In fiscal 2018, we held questionnaire surveys for main partners and placed the results we received from our business partners onto a database. In this way, we have become able to quickly identify which partners are mostly likely to be affected during a natural disaster.



### Conflict Minerals <sup>(note)</sup>

Regarding the action associated with the conflict minerals, we have established the group policy as a part of compliance activities of RBA (Responsible Business Alliance) Code of Conduct, in the “Responsible Mineral Procurement Initiatives” and making efforts to inform the group companies and the business partners.

In fiscal 2018, we continued the surveys on the usage status of the conflict minerals for the main products of Furukawa Electric and the group companies. At the same time, we are actively promoting the procurement from the smelters certified by the RBA conflict-free smelter program.

Going forward, in addition to requesting the cooperation of group companies and our business partners in the responsible sourcing of minerals, we will work with the Japan Electronics and Information Industries Association (JEITA), an industry organization, on initiatives targeting the responsible sourcing of minerals.

(note) Defined as minerals (tantalum, tin, gold, tungsten or their derivatives) that originate in or near the Democratic Republic of the Congo that may help to finance armed conflict.

### Challenges and Future Policy

We want to fully grasp the state of our CSR activities along the value chain by regularly asking our partners to complete a questionnaire on their understanding of our CSR Deployment Guideline for Business Partners. We will also seek to deepen BCM by giving encouragement to partners based on the results of our BCM questionnaire and manufacturing site survey, with the aim of improving crisis response levels along the entire value chain. Internally, during group training held at the Procurement Department, we have held exercise and seminars on the handling of BCM in order to raise our awareness. In addition, we are implementing the work style reform through the RPA (Robotic Process Automation) and also making efforts to reduce internal risks through the standardization and duplication of the procurement operations.

#### Targets and Results (Procurement)

😊 Achieved    😞 Partially achieved    ☹️ Not achieved

FY 2017			FY 2018
Targets	Results	Achievement	Targets
<b>Strengthen strategic relationships with partners</b> <ul style="list-style-type: none"> <li>- Ongoing implementation of the partner assessment system and utilization of feedback discussions</li> <li>- Promote awareness of CSR Deployment Guidelines among partners</li> <li>- Examination and implementation of measures to strengthen the value chain by utilizing BCM questionnaire surveys and site surveys results</li> <li>- Carry out conflict minerals survey (data update survey)</li> </ul>	<ul style="list-style-type: none"> <li>- Conducted partner evaluations of about 213 main partners and held partners meeting</li> <li>- Introduce our CSR Deployment Guideline by procurement system online</li> <li>- Reviewed and increased the number of supply points (and sometimes recommended to hold inventory) for important products</li> <li>- A conflict materials surveys (data update surveys) was done</li> </ul>	😊	<b>Strengthen strategic relationships with partners</b> <ul style="list-style-type: none"> <li>- Continue partner evaluation system</li> <li>- Continue to inform partners about CSR Deployment Guidelines</li> <li>- Communication with partners with a view to strengthening the Value chain based on the results of BCM questionnaire surveys</li> <li>- Conflict minerals survey (data update survey)</li> <li>- Promotion of the strategic “Purchasing process” activities in consideration of the value chain.</li> </ul>

### Message from

the General Managers



**We will strive to achieve mutual understanding with our business partners and take further steps to strengthen our supply chain.**

**Kazuhiro Takamatsu**

General Manager, Procurement Department,  
MONOZUKURI Innovation Division

Ever since its foundation, Furukawa Electric has stayed in business by partners with social infrastructure and contributing to society as a partner of products. However, our success is not just the result of hard works at our company. It is also thanks to the steady delivery by our partners of the raw materials we use to create products.

In the future, our business environment is likely to change

even more rapidly. Under these circumstances, we will need to strengthen our value chains further in order to continue contributing to society. We intend to use a partners meeting and partners assessments to improve the mutual understanding we have with our partners, and to continue contributing to society through measures such as the promotion of CSR activities and strengthening of BCM.

# Relations with Shareholders

## Information Disclosure Policy and IR Framework

Furukawa Electric Group Basic Policy on CSR requires that Furukawa Electric Group seeks to improve upon the sound, friendly relationships we maintain with all of our stakeholders. Our Own Regulations on the Timely Disclosure of Corporate Information meanwhile set out a framework for the disclosure of appropriate information at the appropriate time.

Based on this policy, all IR activities are conducted by the Investor & Public Relations Department and overseen by the director in charge of IR, who is General Manager of the Finance & Global Management Division.

## Relations with Institutional Investors and Securities Analysts

In addition to holding management briefings (covering interim and year-end results and mid-term plans when announced) for institutional investors and securities analysts, we actively encourage communication all year round. In addition, we are striving to enhance the information disclosure, for example, the financial summary and the financial results presentation materials are posted on the day of the announcement, and the Q&A record is posted on the day after the announcement, simultaneously in the Japanese version and in the English version. And the video of the financial results briefing is made available on our website.



The progress of mid-term management plan briefing for the institutional investors.

## Relations with Individual Investors

In August 2018, we held our 11th plant tour for individual investors. Visitors were selected by lottery from among those who responded to an open invitation, with 40 people invited to attend out of the 150 who responded. On the day, the participants could take part to the technologies of Furukawa Electric, such as the open laboratory Fun Lab<sup>®</sup> opened at Yokohama Works in August 2016, and to the OneF Car implemented with the technologies and the products of Furukawa Electric Group, etc.



Fun Lab

## Feedback to the Management

The status of the shareholders and investors' opinions and concerns obtained from the dialogues through the IR activities are regularly reported to the management team and the board of directors.

## Returning Profits to Shareholders

Furukawa Electric aims for management emphasizing capital efficiency and has made the basic policy of its capitalization strategy to balance strategic investment for growth, the cultivation of the next generation of new businesses, the improvement of the financial structure and returns to shareholders.

Under this basic policy, in the "Furukawa G Plan 2020," the new mid-term management plan, we will apply management resources prioritizing facility investment and R&D for profit expansion in focus business areas (infrastructure / automobile markets) and the creation of new businesses, strengthen the earning capacity of our group and improve its financial structure, all of which will support the sustained growth of our group. With regard to returns to shareholders, we also positions the continuation of stable dividends as one of the most important issues of management.

Regarding the year-end dividend for the fiscal 2018 ended March 2019, based on the business result and others for the current fiscal year, and 85 Yen per share was paid as a year-end dividend.

Regarding the dividend for the fiscal 2019 ended March 2020, based on the comprehensive consideration on the future business development and the return of the profit to the shareholders, we plan to pay a year-end dividend of 85 Yen per share which is equal to the current term.

## The Issues and the Future Policies

We recognize that the issue is the strengthening of the information disclosure to the shareholders and to the

individual investors in order to be able to have better understanding of the management strategy and the business content of the Company. In this fiscal year, an online company briefing for the shareholders and the

individual investors was newly planned, and we will also endeavor to disclose the information through our website. We will also continue to strengthen the dialogue with the domestic and the international institutional investors.

## Key Questions and Answers in the Recent Dialogues

### Progress of the Mid-term Management Plan

The Group promotes the management activities based on the five-year mid-term management plan, from FY2016 to FY2020, "Furukawa G Plan 2020".

We recognize that the challenge to achieve the management target figures for FY2020 (operating income of at least 55 billion yen, net income attributable to owners of the parent company of at least 30 billion yen, ROE of at least 10%), due to the uncertainty in the current market environment and a slowdown in the growth rate of the communications business. We will continue to strengthen the focused businesses and products and to transform the low-margin businesses and products. In addition we will continue to strengthen the management structure to be able to adjust with the changes in the environment through such as the cost reduction through the productivity improvement.

### About the Optical Fiber and the Cable Businesses

Starting with the deterioration of the market environment in China, due to the optical fibers, mostly the general purposed fibers, overflowing from China into Southeast Asia and Europe, the price has fallen down. On the other hand, the orders in North America, our main market region, are on a recovery trend. While strengthening the sales expansion of the high-value added products, for the further growth of the optical

fiber and the cable businesses, together with the Transformation Division established in this April, we are making efforts in the cost reduction through the global procurement and in the expansion of the strengths in each manufacturing base.

### About the Automotive Products Business

Recently, depreciation expenses have increased as a result of the advanced investments, and the current mid-term management plan does not expect a significant profit, but we expect a growth after FY2021, when the full-scale mass production and the depreciation expenses decrease are expected. We will also aim at our growth in the area called CASE with the prospect of significant market growth in the future: we will offer our unique value proposition by integrating various technologies which the Group developed in the wide-ranging business areas.

### Capital Investments and R&D Expenses

In the current mid-term management plan "Furukawa G Plan 2020", we are expanding the growth investment focusing on the infrastructure and automotive products segments for the future growth. In FY2019, we will place more emphasis on the capital investments for the productivity improvements and the rationalization.

## Message from the General Managers



**We will continue to actively disclose information and to explain the management and the business strategies and also its progress.**

### Mami Masuda

General Manager, Investor & Public Relations Department,  
Finance & Global Management Division

The Company has been strengthening the IR activities over the past several years, responding to the voices of the shareholders and the investors "The business content and earnings growth scenarios are difficult to understand due to the wide business scope."

Specifically, the business briefing has been held annually since fiscal 2016, and the explanation materials has been posted on the website. In addition, since fiscal 2018, we have

been disclosing the video of the financial results briefing and the mid-term management plan progress briefing, and the contents of the Q&A, for a better understandings by the shareholders and the investors

We will continue to proactively disclose and explain the information, aiming to be a company that is trusted and is expected to grow by everyone.

# Relations with Employees

## Personnel Management

### Personnel Management Policy

We aim to be a creative and dynamic corporate group by utilizing diverse human resources globally. It is fundamental to human resource management to continuously create personnel who can embody Furukawa Electric group philosophy<sup>(note)</sup>, core value and contribute to strengthening competitiveness.

(note) Please refer to page 5 for “Furukawa Electric Group Corporate Philosophy”.

### Medium-term policy

In the 2020 Mid-term Management Plan, we set a mission of pursuing diversity and initiative in order to continue growing in the global markets, improving our ability to respond to changes in the business environment, and realizing greater creativity and execution capabilities in our “people” and “organizations”.

We will implement human resource management to support Furukawa Electric Group’s growth strategy through such as enhancement of HR function in Furukawa Electric Group as a whole through penetration of “Furukawa Electric Group Vision for Our People”<sup>(note)</sup>, fosterage of employee’s voluntary initiative on their career development, improvement of their motivation for competency development.

(note) Please refer to page 31 for “Furukawa Electric Group Vision for Our People” .

### Main measures contributing to the Group’s global management

- 1 Realization of “Successor Training Plan” and strategic placement in important position within group
- 2 Early selection of candidates and systematic development and arrangement, for the training of the next generation of managers
- 3 Penetration and establishment of “Furukawa Electric Group Vision for Our People”, promotion of career development support and improvement of personnel system for that purpose
- 4 Improvement of training curriculum and promotion of human resources exchange, overseas dispatch of young employees
- 5 Acceleration of diversity management efforts
- 6 Promotion of productivity improvement and flexible working way through “work style reform”

## Human Resources Development

### Enhancement of Education Program

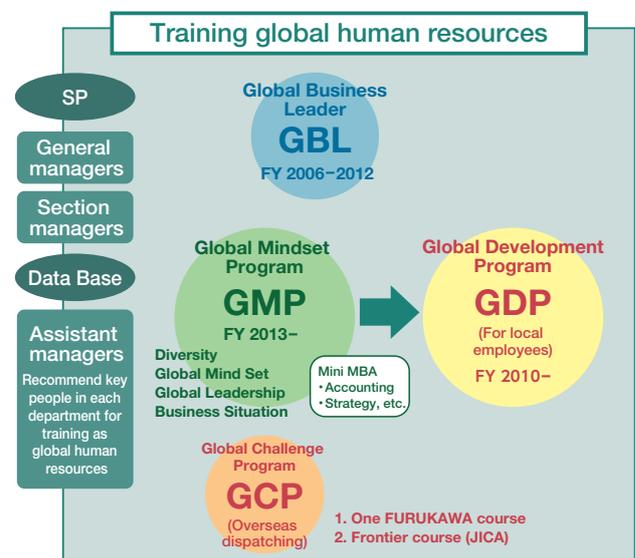
In accordance with “Furukawa Electric Group Vision for Our People”, we are training human resources who have rich humanity and strong challenge spirit, for the sake of our group development. The state of our leaders affects corporate culture and reflects in our business results, which is why we give training at each level to develop leadership, and construct relationships between people by “dialogue” among all our employees. We work hard to instill a mind that is interested in people and respects others.

### Nurturing Leaders Adapted to the Global Scene

We started our Global Business Leader (GBL) training in 2006 in order to develop personnel who will take on the role of management in the future. Since fiscal 2013 this has been reformed to Global Mindset Program (GMP), with its extra emphasis on global human resource education.

We have also operated a Global Development Program (GDP) for overseas local employees since 2010 with the aim of strengthening links within Furukawa Electric Group, the curriculum being partly shared with the GMP. Furthermore, in fiscal 2014 we launched the Global Challenge Program (GCP), which dispatches young employees to foreign countries. We are working to align these various programs to develop human resources who can play a dynamic role on the global stage.

### Global Human Resources Training System



\* ) NS: abbreviation of “National Staff(Local employees)”



## Project to Improve GENBARYOKU Capabilities

From fiscal 2009, the training targeted for the employees in MONOZUKURI (manufacturing) site is carried out at each of our Plants. In fiscal 2018, training was also provided for each class of workers from freshmen to veterans. In addition, we hold the “MONOZUKURI training” targeting manufacturing staff from our Plants and domestic affiliates and the “all employees participating special programs” at the major plants in many companies in Furukawa Electric Group. More than 3,500 trainees participated in the site strength training. We are aiming to revitalize the “MONOZUKURI power” of the workplace by utilizing the “sight strength” where each thinks and acts on its own.



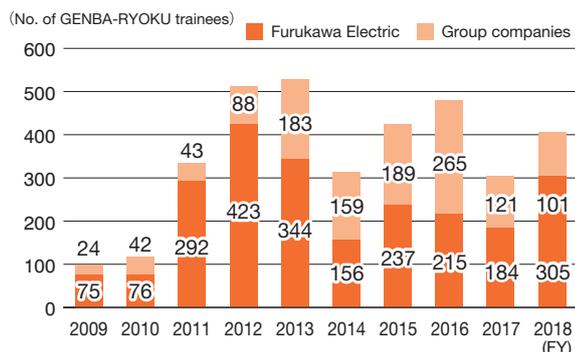
Training for novice technicians. Exercise in work improvement.



Group work on MONOZUKURI staff training for the sight strength.

We are promoting to create a culture which carries out the operation with the common language of “strengthening the GEMBARYOKU”. What’s more, we will strengthen our “MONOZUKURI capabilities” by working together as a united Furukawa Electric Group both in Japan and overseas.

## People Undergoing GENBARYOKU Reinforcement Training



## Using Diverse Human Resources

One of our Group’s management philosophies is to “nurture human resources at every level, so that we can become a more diverse and creative organization”. It is essential for the progress of our Group’s global management to create a corporate culture in which more diverse personnel can succeed. In April 2014, we set up a Diversity Promotion Section, and are working on various measures such as organizational mind fostering, women’s career formation support, promotion of autonomous work-life management, etc., aiming at building an environment where diverse human resources can be active.

## Diversity & Inclusion Activities

In fiscal 2018, our president has announced a message regarding Diversity & Inclusion (D & I) inside and outside the company. We conducted e-learning to prevent harassment and promote understanding of LGBT

at 24 companies including domestic affiliates. In addition, we have started dispatching cross-industry training for chief level women, interviews for returning to childcare leave, and delivery of male childcare leave promotion emails.



Iku-Boss enterprise alliance



“Nadeshiko Brand” logo



“L-Stars” logo

## Objectives related to support the success of women in the workplace (Set new target value in fiscal 2018)

- 1 We aim for 7% of females in managerial positions by fiscal 2025
- 2 We aim for 15% of females in chief positions by fiscal 2025
- 3 We aim for 40% of females in university graduates recruits by fiscal 2025

(note) A summary of our company’s initiatives is available on the Ministry of Health, Labour and Welfare’s “Enterprise database promoting women’s success”.  
<http://www.positive-ryouritsu.jp/positivedb/detail?id=529>



Cross-Industry Training for Women

## Work Style Reform

Work style reform activity started in 2015 as Phase 2 from fiscal 2018, with the slogan “Toward a corporate group where each and every employee works with excitement, and collaboration!” We are active on three pillars: “Autonomous work-life management”, “Culture of Learning and Growing one another”, “Practice of Change”. Above all, in the “Practice of Change”, we established a new award, commended good practices that can be used as reference for other departments. We also held a “preceding case seminar” to introduce their activities, and established a dedicated website for providing know-how and exchanging information. In this way, we have implemented measures to recognize good initiatives and share them widely.

## Diversity in Hiring

In order to respond to the global development of our business, Furukawa Electric Group has come together to implement a variety of initiatives with the aim of securing human resources. In addition to information exchanges to share know-how on hiring within Furukawa Electric Group, we held Furukawa Electric Group Forum in Tokyo, at which actively appealed our attractiveness to students.

Number of new graduates hired by gender (Unit: Person)

		FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Specialized staff	Male	28	45	61	73	80
	Female	8	15	31	31	31
	<b>Total</b>	<b>36</b>	<b>60</b>	<b>92</b>	<b>104</b>	<b>111</b>
	Foreign nationals	0	0	1	0	0
Professional staff	Male	0	0	15	46	49
	Female	0	0	0	0	1
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>46</b>	<b>50</b>

## Encouraging Employment of Disabled People

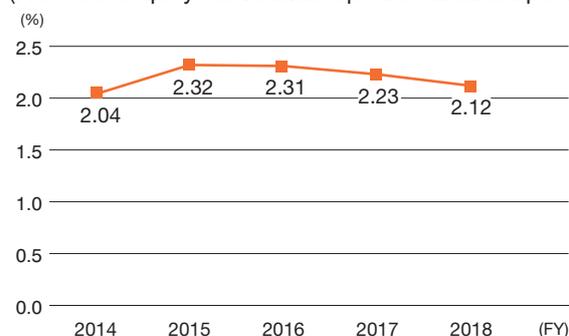
Furukawa Electric has established special subsidiary Furukawa New Leaf in fiscal 2004 for the purpose of improving our employment rate of disabled people. As of March 31st 2019, Furukawa New Leaf employs 40



Furukawa New Leaf employees at work

people who are intellectually challenged. Furukawa New Leaf will actively promote initiatives to improve the employment rate at our Hiratsuka Plant, Chiba Plant, and Mie Plant as activity bases.

### Actual Employment Rate (From our employment status report on disabled persons)



## Internships

Ever since the Japanese government introduced a system of internships in 1997 as part of an industry-academia-government collaboration, in our role as a manufacturer Furukawa Electric has taken on numerous science and engineering interns with the aim of contributing to the fostering of Japanese technicians of the future. We have already taken on more than 200 students across our various workplaces.



Internship training

## Improving the Working Environment through Labor-Management Opinion Exchanges

Furukawa Electric maintains a basic position that both labor and management should endeavor to engage in sincere discussions, and therefore we focus on issue resolution and deepening mutual understanding.

We hold our Central Management Briefings twice annually for public exchanges of opinion between labor and management. We have conducted such meetings for 67 years from fiscal 1952. As of May 2019 we had held these briefings 133 times. Representatives from labor and management exchange frank opinions and



share information about a broad spectrum of items at these briefings, such as the business environment, management, and topical matters.

We also have in place various committees such as the Personnel System Exploratory Committee and the Committee for Studying Shorter Hours that are designed to improve the working environment, which management and labor discuss on a daily basis. These discussions lead to improvements in various systems and strengthen

monitoring functions, such as compliance response and the implementation status of other CSR activities.

### Employee Data Book

Please see the URL below for Employee Data Book.



### Targets and Results (Personnel Development and Working Environment)



Achieved Partially achieved Not achieved

FY 2018			FY 2019
Targets	Results	Achievement	Targets
<b>Strengthening of global human</b> - Implementation of One Furukawa Mind Penetration and “Core Value” conscious GDP training - Continued dispatch of GCP	- In GDP, we held a session to discuss core values by calling people with experience in past GDP from affiliates in Brazil - GCP continuous dispatch has not been achieved due to new applications		<b>Strengthening of global human</b> - Review of the selection criteria for GDP training to obtain high training effect - Expansion and improvement of the contents of GMP training
<b>Reinforcement of Monozukuri capability</b> - Implementation of “Monozukuri capabilities” Education - Continue to strengthen “Monozukuri capabilities” of affiliated companies (Japan and overseas) (ongoing)	- Authorized manufacturing education system with HR department - Continue to promote affiliates to send their employees to each training program On-site training has not been scheduled and has not been implemented		<b>Reinforcement of Monozukuri capability</b> - Implementation of “Monozukuri capabilities” Education - Continue to strengthen “Monozukuri capabilities” of affiliated companies (Japan and overseas) (ongoing)
<b>Support for diverse ways of working, and work-life balance</b> - The number of people with annual regular vacation acquisition less than 5 days shall be zero - Introduce a seminar as a career development support to parents who take childcare leave	- “The number of people with annual regular vacation acquisition less than 5 days shall be zero” has not been achieved by 2 people - Introduced return support interview as career development support for employees who took childcare leave		<b>Support for diverse ways of working, and work-life balance</b> - Introduction of hourly annual leave - Promote understanding of unconscious bias to raise awareness of Diversity & Inclusion

## Message from

### the General Managers



### Change ourselves and take on new challenges starting from the point of “Carefully take advantage of the people”

#### Masako Tanaka

Corporate Vice President, Deputy General Manager,  
Strategy Division and General Manager, Human Resources Department

The HR department's challenges are becoming increasingly sophisticated, such as intensifying global competition, accelerating technological innovation, increasing labor shortages, and diversifying the values of workers. In the history of more than 130 years, our group has made the DNA “Carefully take advantage of the people”. As a person in charge of the human resources department, I would like to respond to changes in the environment based on this starting point, and change myself to take on new challenges.

Last year, we established the global “Furukawa Electric Group Vision for Our People”. It was created in collaboration with HR managers of overseas group companies that showed a common way of thinking about people and organizations and what they want to be. The role of the HR department is “to make use of diverse human resources” and “to support people who want to grow”. With the aim of balancing the company's sustainable growth and individual growth, the HR department will take the lead in acting on Open, Agile, and Innovative.

## Occupational Health and Safety

### Basic Approach to Occupational Health and Safety Management

In addition to basic legal compliance, Furukawa Electric Group prioritizes initiatives that promote “becoming a safety conscious person” and “realizing fundamental safety”. Our basic approach is to aim for zero accidents and zero illness.

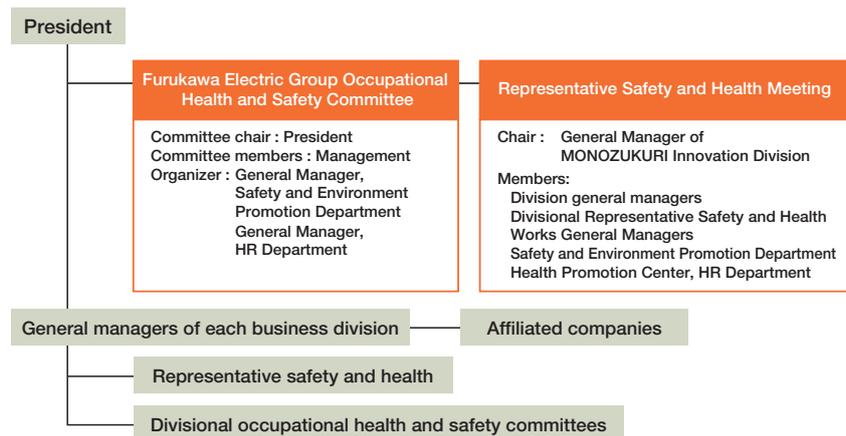
#### Basic Policy on Health and Safety Management

- Endeavor to eradicate accidents by inspections and management in accordance with the Industrial Safety and Health Act.
- Promote the realization of “fundamental safety” with a goal of achieving Stage III or higher in separating people and equipment.
- Improve “safety consciousness” through practical education and risk prediction to encourage employees to become safety conscious person. (\* “Safety consciousness” : (1) Ability to identify points of risk (2) Ability to propose improvements)
- Improve Safety and health management systems with a medium-term goal of achieving Stage IV or higher.
- Promote mental and physical health improvement by Furukawa Electric group’s health management activities.

### Promotion System

Furukawa Electric Group has established the Furukawa Electric Group Occupational Health & Safety Committee (on which the President serves as committee chairman) as the highest body for promoting occupational health and safety at a group level. The committee membership is composed of executives, and carries out deliberation, decision-making and follow-up activities for Furukawa Electric group as a whole in respect to policies and initiatives in health and safety.

#### Promotion Framework



### Safety and Health Activities Presentation Meetings

We have been holding presentation meetings on Furukawa Electric Group’s safety and health activities and awarding the best with commendations. In fiscal 2018, thirteen teams were selected from the SBUs (including six teams from group companies) to give presentations and receive awards from the president.



Furukawa Automotive Systems (Japan) giving a presentation

### Site Inspections by Officers

Furukawa Electric’s safety officers make site inspections at Furukawa Electric Co., Ltd. and group companies whenever an accident occurs and in accordance with performance in the previous fiscal year. They confirm how appropriate the safety measures are, and check the extent to which these measures have become firmly established. In addition, they exchange opinions with a view to achieving fundamental safety, and work



Site inspections by officers at KANZACC (Japan)

#### Targets and Results (Accidents)

😊 Achieved    😞 Partially achieved    ☹️ Not achieved

FY 2018			FY 2019
Targets	Results	Achievement	Targets
Zero “accidents with working loss days”	Four “accidents with working loss days”	☹️	Zero “accidents with working loss days”

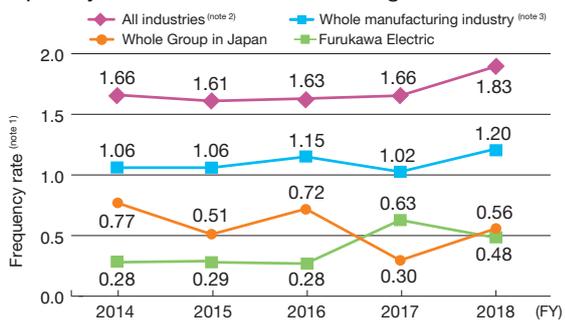
hard to prevent any recurrences. They also conduct visits to domestic and overseas group companies, and exchanged opinions with 9 companies in fiscal 2018.



## Work Accident Occurrence Status

In terms of its performance in fiscal 2018, Furukawa Electric recorded four “accidents with working loss days”, and failed to meet its target of “zero accidents with working loss days”. The frequency rate of accidents resulting in time off work <sup>(note 1)</sup> decreased to 0.48 in Furukawa Electric only but increased to 0.56 among all Group companies in Japan <sup>(note 2)</sup>.

### Frequency rate of accidents resulting in time off work



(note 1) Frequency rate = (No. of casualties / Total actual work hours) x 1,000,000  
 (note 2) The calculation for fiscal 2018 covered full-time employees and temporary staff at Furukawa Electric and 35 Group companies in Japan. See page 83 for companies included in the calculation.  
 (note 3) Data on all industries and the whole manufacturing industry is from Ministry of Health, Labor and Welfare survey results

Meanwhile, the 2018 accident frequency rate for the whole Group including overseas Group companies was 0.76. This included accidents both resulting in and not resulting in time off work.

## Healthcare for Employees Working Long Hours

In accordance with the Guidelines issued by the Labor Standards Bureau entitled “Measures to be Taken by Employers to Prevent Health Impairment Due to Overwork”, we strive to manage the health of employees who work long hours by implementing strict limitations on working hours based on the results of health checkups and by arranging consultations for such workers with industrial physicians.

## Mental Health Education

We have been working on mental health measures since fiscal 2002. So far, We have developed stress control training, mental health training focusing on work engagement, and a “Pleasant Workplace Discussion Sessions” throughout the company.

In fiscal 2014 and fiscal 2015, we promoted self-care training and line care training for all employees in their early 40s and all middle-ranking managers in order to improve their ability to respond to various changes. In fiscal 2016 or later, in addition to continuing to implement these trainings, we have introduced a stress check system in accordance with legal revisions.

## Strengthening Smoking Measures

Since fiscal 2003, the Company have been making the full-scale efforts on smoke curbing and implementing the actions for the prevention of secondhand smoke and non-smoking promotion. As a result of these activities, the smoking rate of the employees (male) has decreased from 53.3% in 2002 to 27.7% in 2018, and in fiscal 2017, non-smoking within working hours was achieved. In order to achieve the full non-smoking all over the Company, under the slogan of “The Company will welcome the 2020 Tokyo Olympic Games with full non-smoking!!”, we will continue the multidirectional efforts of the triad (information provision, non-smoking support, non-smoking environment maintaining).



Non-smoking poster

## Measures to Prevent Falling Accidents

The falling accident increases with age, even in the Company, as its members are aging, as the increase of falling accident (including commuting injuries during walking) is a serious concern, the preventive education for the falling accidents and fitness exercises (muscle training) were introduced from fiscal 2016. In addition, in fiscal 2016 the physical function check-ups has been implemented for employees over 50s, and since fiscal 2017, it has been expanded to over 40s.

## Certificated as “Health Management Brand 2019” and “Health Management Superior corporation 2019”

The Company was certified as “Health management brand 2019” selected by Ministry of Economy, Trade and Industry (METI) and Tokyo Stock Exchange, in addition to “Health Management Superior corporation 2019 (White 500)” which practiced good health management under the METI's health management excellent corporation certification system.



White 500 certificate

In addition, on May 15, 2017, from the managerial view point, “Furukawa Electric Group Health Management Declaration” was enacted, in order to promote “Health Management” which strategically strives for the health management and the health promotion of the employees. In order to “aim to become a creative and full of vitality corporate group by taking advantage of the diverse human resources”, we will keep making “a company where everyone works vigorously, keeps growing and is proud” by prioritizing safety and health to everything, promoting various activities mindful of health management throughout the Company.

# Relations with Communities

## Basic Policy

Furukawa Electric Group has continued to conduct social contribution activities that are rooted in the local community. Going forward, we will strengthen these actions further along the three dimensions of nurturing future generations, promoting sport and culture, and living in harmony with the natural environment and local communities.

### **Furukawa Electric Group Basic Policy on Social Contribution Activities** (Revised March, 2011)

Furukawa Electric Group will continuously undertake social contribution activities focusing on nurturing future generations, promoting sport and culture, and living in harmony with the natural environment and local communities, in addition to its business-related activities, in order to maintain and strengthen community ties built over centuries and create a better tomorrow for future generations.

## Donated Furukawa Electric’s facility to the Meiji Memorial Oiso Garden

As a part of the measures related to “Meiji 150th”, the Country will establish “Meiji Memorial Oiso Garden” in Oiso-machi, Kanagawa pref.. Furukawa Electric donated the “Former Shigenobu Okuma House” and the “Former Munemitsu Mutsu House”, which have been maintained and managed as the reception facilities, to the Country. Those were opened to the public for a limited time as a “Meiji 150th Commemorative Project” together with the nearby Former Hirofumi Ito House.



## ESG awards Social Contribution Award

Furukawa Electric has established the “CSR Special Awards” which commends the excellent social contribution activities and the environmental conservation activities of the group companies. Starting in fiscal 2018, the scope of awards was expanded to the activities in each of Furukawa Electric’s location to be awarded as the “ESG Award for Social Contribution”, thus we are working to expand and to enhance the social contribution activities within Furukawa Electric Group.

### Outstanding Performance Award

#### **Furukawa Electric LatAm S.A.**

Development of the LSZH Green for LAN copper cable jackets.

#### **Furukawa Automotive Systems Inc.**

Creation of the safe, secure and pleasant workplace for the employment revitalization of people with disabilities.

### Environmental Preservation Award

#### **Furukawa Industrial Plastics Co., Ltd.**

Employment supports by business consignment to the facilities for the people with disabilities.

#### **Copper Foil Division, Furukawa Electric Co., Ltd.**

Work supports and volunteer activities for the people with intellectual disabilities through NPOs.

# Activities in each region

Furukawa Electric Group conducts various activities in each region.

## Nurturing future generations

### Supported youth development such as the work place experiences

- Furukawa Electric (Chiba Works, Yokohama Works, Copper Foil Division)
- Furukawa Sangyo Kaisha ● The Furukawa Battery
- Furukawa Automotive Systems
- Furukawa Electric Power Systems ● Furukawa Logistics



“Work place experience learning” by nearby junior high school students. (Yokohama Works)  
(note) Providing the power transmission and distribution products as the art materials.



“New power of the art connecting the local communities, the school and the company” (Furukawa Electric Power Systems<sup>(note)</sup>)  
(note) Providing the power transmission and distribution products as the art materials.

### Supported private sector training for teachers

- Furukawa Electric (Hiratsuka Works)

### Participated in, sponsored, and provided a venue for sporting events

- Furukawa Electric (Nikko Works, Hiratsuka Works, Mie Works, Copper Tube Division)
- Furukawa Sangyo Kaisha ● The Furukawa Battery
- Furukawa Nikko Power Generation ● Furukawa Magnet Wire

### Hosted, participated in, and supported festivals

- Furukawa Electric (Nikko Works, Hiratsuka Works, Mie Works, Copper Foil Division)
- The Furukawa Battery ● Furukawa Automotive Systems
- Miharu Communications ● Furukawa Precision Engineering
- Furukawa Electric Power Systems ● NTEC
- Furukawa Nikko Power Generation

## Other activities

### Donated the support money to the heavy rain disaster area in July 2018

- Furukawa Electric and 32 domestic group companies

### Supported the restoration of the Tohoku region

- Furukawa Electric (Chiba Works, Hiratsuka Works)

### Donated and raised funds for charities

- Furukawa Electric (Nikko Works)
- Furukawa Sangyo Kaisha ● The Furukawa Battery
- Furukawa Automotive Systems
- Miharu Communications
- Furukawa Precision Engineering ● Furukawa Logistics
- Furukawa Nikko Power Generation

### Donated blood

- Furukawa Electric (Chiba Works, Hiratsuka Works, Yokohama Works, Copper Foil Division)
- The Furukawa Battery ● Furukawa Automotive Systems

### Conducted events for employees' families

- Furukawa Electric (Hiratsuka Works, Mie Works)
- Furukawa Automotive Systems ● Furukawa Magnet Wire

## Living in harmony with the natural environment

### Participated in local environment beautification campaign

- Furukawa Electric (Chiba Works, Hiratsuka Works, Mie Works, Copper Tube Division, Copper Foil Division)
- Furukawa Sangyo Kaisha ● The Furukawa Battery
- TOTOKU Electric ● Furukawa Techno Material
- Furukawa Automotive Systems ● Furukawa Electric Industrial Cable
- KANZACC ● Furukawa Precision Engineering ● Shodensha
- Furukawa Nikko Power Generation
- Furukawa Magnet Wire



Sponsored by the labor union. “The Coast Clean Campaign” (Hiratsuka Works)

### Conducted beautification activities outside premises

- Furukawa Electric (Chiba Works, Nikko Works, Hiratsuka Works, Mie Works, Copper Tube Division, Copper Foil Division)
- Furukawa Techno Material ● Furukawa Automotive Systems
- Furukawa Electric Industrial Cable
- Furukawa Electric Ecotec ● Furukawa Electric Power Systems
- Furukawa Logistics ● NTEC
- Furukawa Magnet Wire



Off-site beautification activities. “Ichihara city Beautification Supports” (Chiba Works, Furukawa Electric Ecotec)

## Living side by side with local communities

### Supported and worked with NPOs and special-needs schools

- Furukawa Electric (Copper Foil Division)
- Furukawa Sangyo Kaisha
- Furukawa Electric Advanced Engineering

### Cooperated and participated in the events such as the regional patrol

- Furukawa Electric (Nikko Works) ● KANZACC
- Furukawa Electric Power Systems ● Furukawa Logistics

### Held a fishing event

- Furukawa Nikko Power Generation

### Worked on biodiversity

- Furukawa Electric (Chiba Works, Nikko Works, Hiratsuka Works, Yokohama Works, Copper Foil Division)
- Okumura Metals ● TOTOKU Electric
- Furukawa Techno Material
- Furukawa Precision Engineering
- Furukawa Nikko Power Generation
- Furukawa Magnet Wire



“The 4th Tochigi Furukawakai/ Furukawa Forest Tree Planting Activity” (Furukawa Precision Engineering)

### Challenges and Future Policy

Furukawa Electric's works, branch offices, and group companies are implementing community-based activities with ingenuity. We will continue investigating programs and other measures which can apply our unique company characteristics in accordance with the Furukawa Electric Group Basic Policy on Social Contribution Activities.



## 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 Organization

Furukawa Electric Group promotes environmental activities based on the basic environmental philosophy. The supreme advisory body in charge of the environment who is called the “Furukawa Electric Group Environmental Committee” is promoting the environmental management. The Corporate Vice President, who is also General Manager of the MONOZUKURI Innovation Division, serves as the chairperson, and the committee consists of the General Managers from each business division and each corporate division responsible for management. The progress is reported quarterly to the Board of Directors level.

In order to ensure that the environmental management can be implemented smoothly, the environmental issues are specifically examined cross-departmentally in the “Council of Environmental Managers” which is consisting of the environmental manager of each business division and corporate division.

### Environmental Education

#### Environmental Education System and Environmental Education Programs

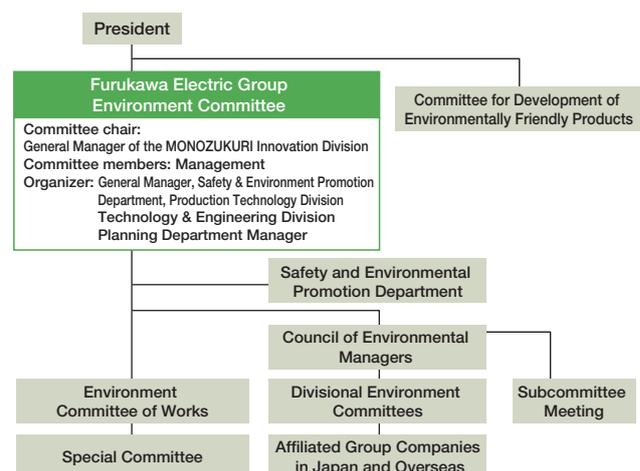
Furukawa Electric Group is engaged in a variety of environmental education activities in order to raise environmental awareness among its employees and help them to share information necessary to conduct the

environmental activities of Furukawa Electric Group.

In fiscal 2018, 61 employees attended the ISO14001 internal environmental auditor training for the newly appointed employees. The differential education was held in Hiratsuka Works. An education by rank, at the beginning of the fiscal, covering the new employee training, the newly appointed managers training and the mid-level MONOZUKURI staff training were conducted.

In the Environmental Month of Jun 2018, the Hazard Prediction activities (KYT: kiken yochi training in Japanese) was conducted as an activity to prevent environmental accident and the irregularities.

#### Promotion Framework





### Environmental activity award system

In Furukawa Electric Group, aiming at the improvement of the environmental awareness and the level up in the environmental activities, from fiscal 2010, we started the Environmental Activity Awards, and in fiscal 2018, its name was changed the ESG Awards “Environmental Contribution Award”.

In fiscal 2018, through the judging panel, one award for the Excellent and one award for the Effort were selected, and were awarded in early July at the “MONOZUKURI Presentation”. The award for the Excellent was to the project that significantly reduced the power consumption in the manufacturing process by applying the new cross-linking technology”.

### Environmental Accounting

Furukawa Electric Group has introduced environmental

accounting and works hard to promote efficient and effective environmental activities through the quantitative identification of environmental conservation costs and effects. Collation is implemented in reference to the Ministry of the Environment’s “Environmental Accounting Guidelines 2005” and covers Furukawa Electric Co., Ltd. and 22 domestic group companies.

The costs of environmental conservation activities in fiscal 2018 were 2.86 billion yen in expenses and 0.9 billion yen in investments. This represents a 0.04 billion yen increase in expenses and a 0.54 billion yen fall in investments against the previous fiscal year.

Please see P.83 for details of the companies included in the scope of data collation. Please see below for the collated results of environmental accounting.

CSR

<https://www.furukawa.co.jp/en/csr/>

### Environmental education programs

Category of educational training	Content	New recruits	General employees	Mid-career employees	Newly appointed section managers	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, environment regulations, procedures for internal environment audits, various drills					
One-day brushup course (once a year, voluntary)	Trends in environmental regulations, various drills to brush up auditing skills					
	Environmentally considerate design					
Environmental subjects (as needed, voluntary)	Environmental regulations					
	Control of chemical substances contained in products					
Consolidated environmental management seminars	Seminars by experts on priority issues					

### Message from the General Managers



**Towards the contribution to the decarbonization, the sound material-cycle and the circular & ecological sphere society, the environmental targets 2030 was established.**

**Tsutomu Fujinuma**

General Manager, Safety & Environment Promotion Department, MONOZUKURI Innovation Division

As is known, the climate change, including the extreme weather, is occurring in many countries around the world. The impact of the greenhouse gas emissions is a major factor. Therefore, the activities for the decarbonization is being promoted through the whole world.

Among the newly set environmental targets 2030, we are aiming to contribute towards the decarbonized society, towards the sound material-cycle society and towards the circular & ecological sphere society. Especially for the reduction of the greenhouse gas emissions the long term target figures was set.

In addition to the previous hydro power generation, the solar

power generation started supplying, and we are proceeding with our work aiming to improve the renewable energy ratio.

Furthermore, we will promote the activities to achieve the targets through the realization of the greenhouse gas emission reduction measures and the promotion of the recycled materials usages from the perspective of the sound material-cycle society, including the value chain.

We will continue to work in order to earn the trust of the stakeholders, through taking the initiatives in the products developments that contribute to the environment and through the manufacturing that is friendly to the environment, in collaboration with our colleagues working around the world.

## Material Flow

### Environmental Impact of the Furukawa Electric Group in Fiscal 2018

We tallied data for Furukawa Electric, 34 domestic group companies, and 54 overseas group companies—a total of 89 companies.

Please refer to page 83 for a list of all applicable companies.

## INPUT

Category	Domestic	Overseas	Unit
<b>Raw materials</b>			
Copper	145.6	188.5	1000t
Aluminum	7.6	56.9	1000t
Iron	2.6	9.4	1000t
Other metals	5.9	0.8	1000t
Glass	—	3.6	1000t
Plastic	33.7	54.1	1000t
<b>Energy</b>			
	<b>7,671</b>	<b>8,761</b>	TJ
Electricity (purchased electricity)	534	753	GWh
Electricity (hydroelectric electricity)	108	—	GWh
Electricity (solar electricity)	260	1,742	MWh
City gas	7,552	4,980	1000 m <sup>3</sup>
Natural gas	7	21,025	1000 m <sup>3</sup>
LPG	17	2	1000 t
Heavy fuel oil A	4,391	774	kl
+ Kerosene + Light oil			
<b>Water</b>			
	<b>10,516</b>	<b>2,621</b>	1000 m <sup>3</sup>
Industrial water	6,757	46	1000 m <sup>3</sup>
Groundwater	2,988	322	1000 m <sup>3</sup>
Tap water	772	2,253	1000 m <sup>3</sup>
<b>Chemical substances</b>			
Volume handled <sup>(note 1)</sup>	50.8	—	1000t
<b>Packaging <sup>(note 2)</sup></b>			
Cardboard + Wood + Paper	2.7	11.2	1000t
Plastic	0.09	0.4	1000t

Furukawa Electric  
7 works,  
34 domestic group  
companies  
and  
54 overseas group  
companies



## OUTPUT

Category	Domestic	Overseas	Unit
<b>Waste <sup>(note 3)</sup></b>			
Total waste generated <sup>(note 4)</sup>	28.4	16.3	1000t
Final waste disposal	0.4	11.0	1000t
Recycling amount	26.1	5.3	1000t
<b>Atmospheric emissions</b>			
CO <sub>2</sub>	338	456	1000t-CO <sub>2</sub>
SF <sub>6</sub>	49	—	1000t-CO <sub>2</sub>
SOx	2	—	t
NOx	76	—	t
Soot	12	—	t
<b>Chemical substances</b>			
Volume emitted	210	—	t
Volume transferred	402	—	t
<b>Wastewater</b>			
	<b>9,272</b>	<b>1,983</b>	1000 m <sup>3</sup>
Public waterways	8,630	513	1000 m <sup>3</sup>
Rivers	7,678	110	1000 m <sup>3</sup>
Sea	934	0	1000 m <sup>3</sup>
Other	17	403	1000 m <sup>3</sup>
Sewer	642	1,470	1000 m <sup>3</sup>
<b>BOD</b>			
	32	—	t
<b>COD</b>			
	37	—	t
<b>SS</b>			
	47	—	t
<b>Volume of water recycled and reused</b>			
	<b>1,113</b>	<b>53,837</b>	1000 m <sup>3</sup>

(note 1) PRTR-listed substances

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

(note 3) Including valuable resources (Japan)

(note 4) Emissions off-site



## Targets and Performance of Environmental Conservation Activities

### Environmental Targets 2030

1. Contribution to the decarbonized society: Aiming for zero emissions over the long term.

(1) The greenhouse gas emissions in the business activities: Reduce absolute scope 1 and 2 GHG emissions 26% by FY2030 from a FY2017 base year.

(2) The greenhouse gas emissions in the value chain: Reduce absolute scope 3 GHG emissions 20% by FY2030 from a FY2017 base year.

2. Contribution to the sound material-cycle society: Promote of the recycled materials usages aiming at the sound material-cycle society.

3. Contribution to the circular & ecological sphere society: Minimize the impact on the ecological system through the provision of the environmental activities and products / services.

In fiscal 2018, Furukawa Electric Group has set the Environmental Targets 2030 and applied for SBT<sup>(note)</sup> and got certified in fiscal 2019.

(note) SBT: Science Based Target.

### Targets and Performance (Environment)

😊 Achieved    😐 Partially achieved    ☹ Not achieved

Activity	Base year	Furukawa Electric Group (Domestic and overseas)			
		Targets for FY 2018	FY 2018 results	Evaluation	Target for FY 2019 (Base year: FY2017)
Reduction of greenhouse gas emissions (Scope1&2) <sup>(note 1)</sup>	2013	Domestic : 5% or more	Reduced 21.2%	😊	4.5% or more
	2015	Overseas : 3% or more (greenhouse gas emission per sales)	Reduced 18.3%	😊	
Improvement ratio of renewable energy		Domestic : 1% or more compared to FY2017	±0%	☹	Improve to more than 0.5%
Reduce greenhouse gas emissions (Scope3) <sup>(note 2)</sup>		Set targets	Reduce by 20% or more compared to FY2017 by FY 2030		
Reduce production energy	2013	Domestic : 10% or more (production energy per sales)	Reduced 15.9%	😊	2% or more (production energy per sales)
	2015	overseas : 3% or more (production energy per sales)	Reduced 12.4%	😊	
Reduce transportation energy	2015	Domestic : 3% or more (transportation energy per ton-kilometers)	Reduced 3.0%	😊	Domestic : 2% or more (transportation energy per ton-kilometers)
Reduce total waste	2015	Domestic : 3% or more (volume per sales)	Reduced 24.8%	😊	Domestic : 2% or more (volume per sales)
Reduce water withdrawal	2015	Domestic and overseas : 3% or more (volume per sales)	Domestic : reduced 11.5% Overseas : reduced 13.6%	😊	2% or more
Improvement sales of environmentally friendly products		Sales ratio : 40% or more	40.5%	😊	Sales ratio : 50% or more
Contribution of products to avoided environmental impact		80,000 ton-CO <sub>2</sub> or more	138,000 ton-CO <sub>2</sub>	😊	90,000 ton-CO <sub>2</sub> or more
CDP <sup>(note 3)</sup> SCORE UP (Climate Change)		Score B or more	Score B-	😊	Score B or more
Prevention of environmental accidents		Number of accidents : Zero Number of small accidents : 3 or less	Accidents Zero Small accidents 2	😊	Number of accidents : Zero Number of small accidents : 3 or less

(note 1, 2) Scope 1: Direct emissions from business sites through the use of fossil fuels, etc.

Scope 2: Indirect emissions through the use of electricity, steam and heat supplied from outside of business sites

Scope 3: Other emissions include indirect emissions such as purchased products and services, business trips, commuting, upstream transport.

(note 3) CDP: CDP is an organization formed from institutional investors for the purpose of managing a project requiring companies to disclose their strategies for climate change and the specific amount of greenhouse gases they generate.

### Activities Targets and Performance in Fiscal 2018

In fiscal 2018, the final year of the medium-term environmental plan, we worked to achieve the targets together with the whole group. For the climate change countermeasures, the total CO<sub>2</sub> emissions from the domestic and the overseas group were reduced by 4.6% compared to those of fiscal 2015, through the integration and the consolidation of the production bases for various products from the business structure reformation.

### Activity Targets in Fiscal 2019

In fiscal 2019, we started a study towards the formulation of the next medium-term environmental plan. For the climate change countermeasures, we will strongly promote the reduction of the greenhouse gas emissions including the sulfur hexafluoride. The solar power generation introducing plan will be proceeding mainly in the sites in Taiwan and in other countries, and will switch to use renewable energy.

## Environmentally Friendly Products

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

Furukawa Electric Group defines the environmentally friendly products as follow: The products that are comprehensively evaluated to contribute to reducing the environmental impact or to have a positive environmental impact through the entire life cycle.



For the products compatible with the environmentally friendly products, the environmental mark “e-Friendly” is displayed on the exterior and the catalogues to encourage their adoption.

### Categories of Environmentally Friendly Products

Furukawa Electric 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 contribute to the reduction or absorption / fixation of the greenhouse gas (GHG) emissions through the entire life cycle, or products that have reduced the greenhouse gas in its manufacturing processes.
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, products that have reduced waste volume in any one of all manufacturing processes.
Elimination of materials that have an impact on the environment	The products that meet one of the followings. (1) Products that do not use the ozone-depleting substances in all its fabrication processes. (2) Products that contain environmentally hazardous substances less than the regulation stated value. (3) Products that do not generate the environmentally hazardous substances exceeding the regulation stated values on using or disposing.
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.

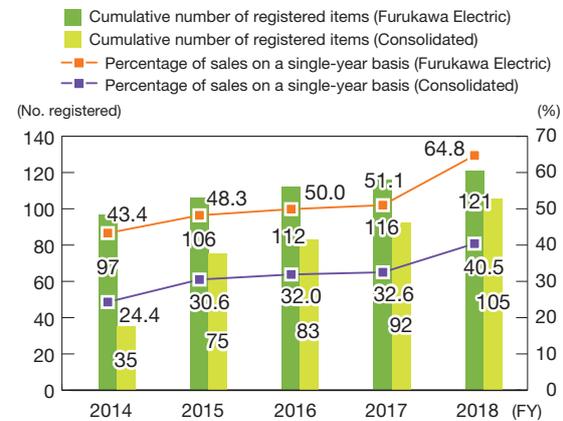
Environmentally Friendly Products (in Japanese)

<https://www.furukawa.co.jp/csr/environment/>

### Expanding Environmentally Friendly Products

In order to increase the ratio of the environmentally friendly products in all the products of Furukawa Electric Group, 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



(note) In fiscal 2018, the rule for the environmentally friendly products was revised (The products that reduced the greenhouse gas (GHG) in the manufacturing process, etc.) and was reflected in the aggregate calculation.

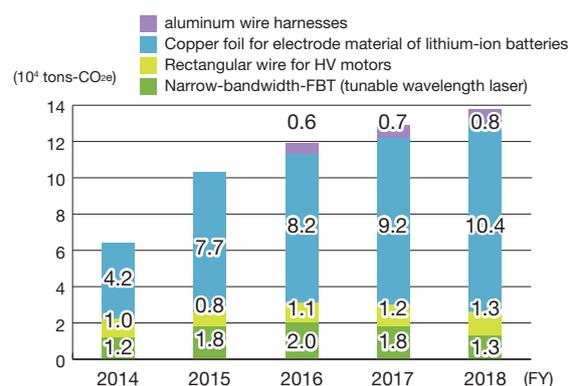
### Efforts to Contribute to the Environmental Impact Reduction by the Products

Furukawa Electric Group is working to visualize the reduction amount of CO<sub>2</sub> emission at the final stage of the usage after our components are installed in the customer's products, based on the calculation result of the CO<sub>2</sub> emissions “visualization” of the main products by utilizing the Life Cycle Assessment (LCA).

For our main products, the copper foils, the semiconductor lasers, the rectangular magnet wires and the aluminum wire harnesses, in our fiscal 2018 estimation, the total reduction value estimated from the products sales amounts mainly in the domestic market was approximately 140,000 tons-CO<sub>2</sub> / year.

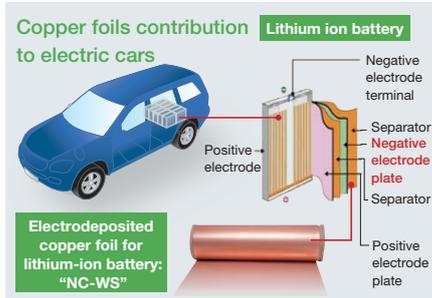
From now on, through the close monitoring of the global market trends, we will strive to create a social infrastructure that integrates the information, the energy and the mobility, to expand the sales of each product group and to expand the number of the contributing product types. Thus we will expand our efforts for the global environmental issues through our products.

### Contribution of products avoided CO<sub>2</sub> emissions





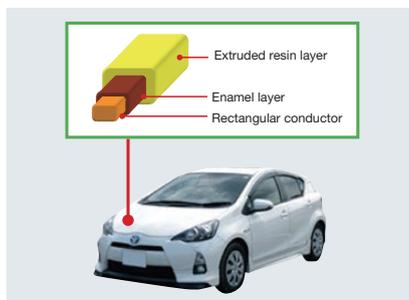
**Reduction of CO<sub>2</sub> emissions using copper foil for lithium-ion batteries in electric vehicles.**



**Reduction of CO<sub>2</sub> emissions by the narrow beam linewidth and high power compact Integrated Tunable Laser Assembly (ITLA).**



**Reduction of CO<sub>2</sub> emissions by the HV rectangular wire for the drive motor in electric vehicles.**



**Reduction of CO<sub>2</sub> emissions by aluminum harnesses for automobiles.**



**Climate change measures**

**Efforts to Reduce Greenhouse Gas Emissions**

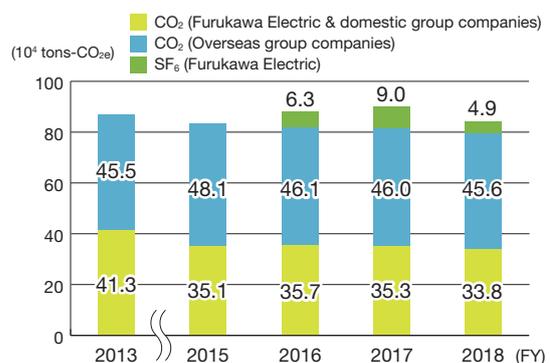
The greenhouse gas emissions of Furukawa Electric Group are mainly energy originated CO<sub>2</sub> emissions and the sulfur hexafluoride emissions.

In fiscal 2018, the CO<sub>2</sub> emissions from Furukawa Electric and the domestic group companies were 338,000 tons-CO<sub>2e</sub>, and were reduced by 4.0% compared to those of fiscal 2017. The CO<sub>2</sub> emissions from the overseas group companies were 456,000 tons-CO<sub>2e</sub>, and were reduced by 0.1 % compared to those of fiscal 2017. And the sulfur hexafluoride emissions were reduced by 45.4 % compared to those of fiscal 2017 due to the progress in the maintenance of the test facilities, etc., and the total greenhouse gas emissions were reduced by 60 thousand tons compared to those of fiscal 2017.

As an effort for the carbon reduction, the fuel in the Mie Works was switched from LPG to LNG in January 2019. In the Copper Foil Division, the solar power generation equipment was installed and started supplying in February 2019.

Furukawa Electric Group will continue to switch to the energy with less CO<sub>2</sub> emissions.

**Greenhouse gas emissions**



(note) For the overseas CO<sub>2</sub> emission coefficient, the coefficient for each country according to the IEA (International Energy Agency) is used for purchased electricity, while the Japanese emission coefficient is used otherwise. Emissions of greenhouse gases other than CO<sub>2</sub> are converted to CO<sub>2</sub> equivalent emissions using Global Warming Potential (GWP).



Copper Foil Division, Nikko, Tochigi (solar power generation equipment)

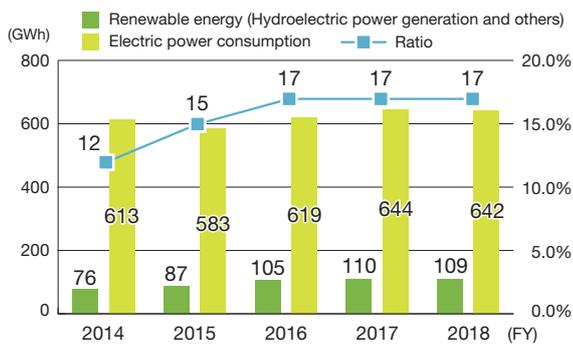
## Use of the Renewable Energy

Furukawa Nikko Power Generation Inc. of Furukawa Electric Group possesses the four power plants and is supplying the hydroelectric power. It covers 100% of the power used in Nikko Works and the copper strips are manufactured using the hydroelectric power.

In fiscal 2018, the solar power generation equipment was installed in each Copper Foil Division, Furukawa AVC Electronics (Suzhou) and Furukawa Mexico S.A. De C.V., and started using in January 2019. In fiscal 2018, the usage ratio of the renewable energy in Furukawa Electric and the domestic group companies maintained 17%.

We will continue to improve the ratio of the renewable energy usage.

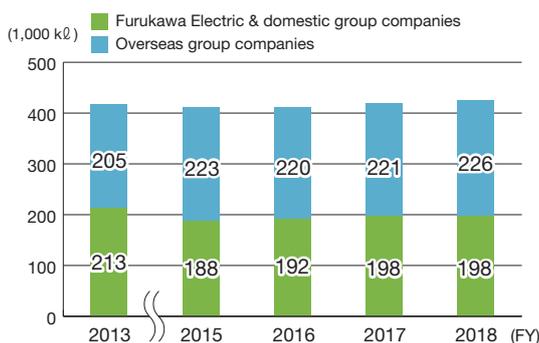
### Renewable energy ratio (Furukawa Electric and domestic group companies)



## Efforts on Energy Saving in Factories

Furukawa Electric Group's energy usage rate was about 20% for fuel and about 80% for electricity. In particular, we achieved energy saving in the manufacturing process with high energy usage ratio. We replaced conventional equipment with more efficient production process and higher efficiency equipment. We implemented measures such as heat insulation of the high temperature section of equipment considering energy balance. Also, the factory building LED lighting is proceeding in accordance with the schedule.

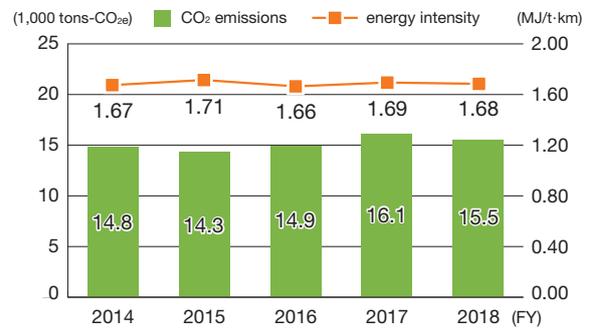
### Energy consumption



## Initiatives in Logistics

The transportation amount in Furukawa Electric Group was 232 million ton-kilometers during fiscal 2018. Among this amount, the Company transported 135 million ton-kilometers which was increased by 10.6% in comparison with fiscal 2015, and the CO<sub>2</sub> emissions were increased by 8.4% which is 15,500 tons-CO<sub>2</sub>. The specific consumption showed a 1.9% of reduction in comparison with fiscal 2015. We will continue to promote modal shift, increase loading ratios and encourage the joint shipping.

### CO<sub>2</sub> emissions and energy intensity related to transportation (Furukawa Electric)



## Measures to Disclose Environmental Information

Furukawa Electric Group has been answering to enquiries from CDP, which is representing our institutional investors, on CDP climate change since fiscal 2008 and on CDP water since fiscal 2013. In fiscal 2018, our CDP climate change score was B- and CDP water score was B-.

As a response to the customers utilizing the CDP supply chain program, in order to maintain and improve the CDP scores, we will continue to expand the environmental information disclosure contents and make the reliability higher. We also continue our participation in the environmental information disclosure infrastructure development project of the Ministry of the Environment and continue our collaboration with The Japanese Electric Wire & Cable Makers' Association and the Japan Copper and Brass Association.

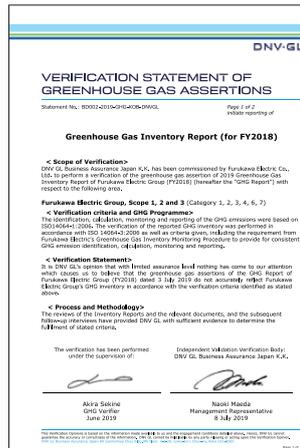
### Greenhouse gas emissions of CDP disclosure (10<sup>3</sup> tons-CO<sub>2e</sub> /year)





From the third party verification on the greenhouse gas emissions in fiscal 2018, with fiscal 2017 as the base year and with fiscal 2018 as the reporting year, the sulfur hexafluoride in the Scope 1 and the category 1 in the Scope 3 were added.

Verification Statement of Greenhouse Gas Assertions



## Reducing Waste

### Initiatives in the Waste Reduction

In fiscal 1993 Furukawa Electric Group started the efforts to increase the waste recycling, and since fiscal 2001 the zero emissions activities have been promoted. And, since fiscal 2014, the activities aiming at the total waste output reduction, including the valuable resources have been promoted.

In fiscal 2018, per sales unit in Furukawa Electric and the domestic group companies was reduced by 24.8% compared to those of fiscal 2015. We are working to reduce the waste generation in the manufacturing processes by introducing the waste fluid treatment facilities and reducing the waste fluid.

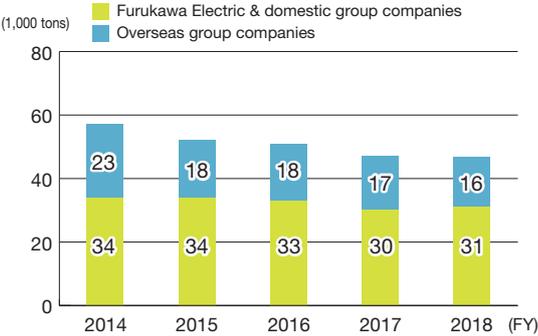
We will continue our efforts to the effective use and the recycling of the resources including the raw materials aiming at the sustainable resource flow.

## Water Resources

### Effective Utilization of Water

Since fiscal 2013, Furukawa Electric Group has promoted effective water utilization as one of the activities

#### Total amount of waste generated

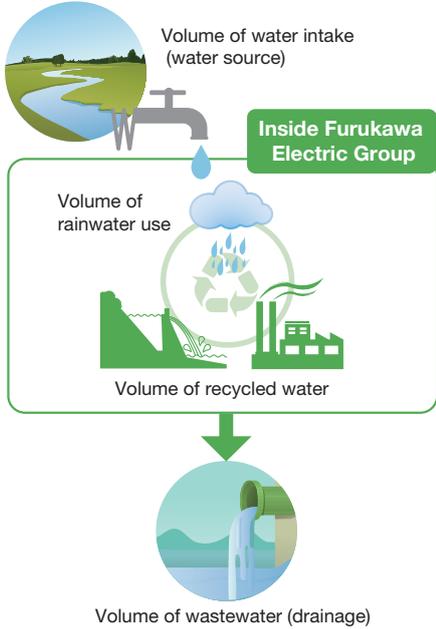


targets and making efforts to grasp the amounts of the water intake and wastewater for each site. Since fiscal 2015, we have taken action for the reduction of the water intake amount per sales unit. In fiscal 2018, the water intake amount per sales unit of Furukawa Electric domestic group was 2,110 m<sup>3</sup>/100 million yen, decreased by 11.5% compared with fiscal 2015. For Furukawa Electric overseas group, the water intake per sales unit was reduced by 14.1% compared with fiscal 2015.

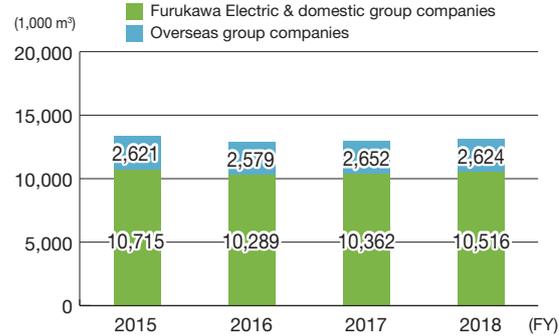
Though, Furukawa Electric Group will continue to use water resources necessary for the production processes, Furukawa Electric Group will continue to make efforts to save water and recycle usage, and manage the water quality and the waste water volume.

In the information disclosure regarding the water resource management of CDP Water, utilizing AQUEDUCT of World Resource Institute (WRI) to identify water risks at major sites in Furukawa Electric Group and 5 sites were selected.

In every year, the risk assessments including water resources have been conducted, and their improvement is progressing with incorporating them into the BCM plan.



#### Use of water resources



## Chemical Substance Management

### Green Activities

#### Response to Customer Requests

Furukawa Electric Group has participated in JAMP (note 1) since 2009, and is implementing simultaneous environmental examinations based on the latest information from the JAMP management target substance list related to management of chemical substances contained in products. 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.

#### 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.

Regarding the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) compliance, which is the environmental products regulation in EU, in fiscal 2018, the environmental inspection was implemented on 197 substances up to 20th Substance of Very High Concern (SVHC) REACH. In order to respond to the customer's request, we will proceed to shift to the Chemical information SHaring and Exchange under Reporting Partnership in supply chain (chemSHERPA) which is the information transmission scheme of chemical substances contained in products.

#### Green Procurement Activities

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.

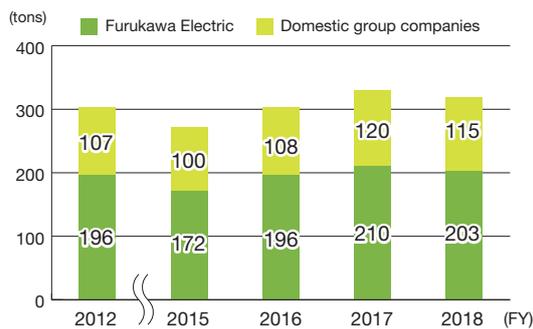
#### Chemical Substance Management Activities

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 2018, the emission amount of Furukawa Electric domestic group was decreased by 4% compared with fiscal 2017, but increased by 5% compared with fiscal 2012. We will continue our efforts to reduce the usage amount of the targeted substances along with the suppression of the emissions from the production processes and others.

#### Emissions of volatile organic compounds (VOC)



(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. And in accordance with the PRTR Act (note 2) we continue to strive to keep records of the amount handled, transported and discharged of the relevant substances.

(note 1) JAMP: Joint Article Management Promotion-consortium

(note 2) Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

## 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.

### PCB Management

Furukawa Electric Group identifies the volume of high-concentration PCB-containing equipment at Furukawa



Electric Co., Ltd.'s works and at the bases of our group companies, and carries out appropriate storage and management.

Currently, the processing is sequentially carried out according to the plan of Japan Environmental Storage & Safety Corporation, and the processing has been completed at some of our business sites. We are conducting the analysis and the surveys of the equipment that have the potential to contain a low concentration PCB, and those found to be the low concentration PCB contained equipment shall be properly kept, managed and disposed of while making consideration for storage-related risks. Furthermore, we will proceed the disposal at an early stage according to the equipment updating schedule.

### 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 2018, in order to prevent the environmental accidents and irregularities, the hazard prediction activities was conducted. In addition, the out-of-service refrigeration facilities were checked about their handling status and the facilities and equipment that handle the hazardous chemical substances were inspected again. We will continue the appropriate handling of the hazardous chemical substances.

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.

Please see the URL below for our response to the asbestos problem.

CSR

 <https://www.furukawa.co.jp/en/csr/risk/>

## Biodiversity Conservation

### Biodiversity Conservation Initiatives

Furukawa Electric Group has included biodiversity conservation measures in our Basic Environment Policy. We have formulated and are applying Furukawa Electric Group comprehensive guidelines in relation to initiatives aimed at protecting biodiversity.

While registering with the JBIB (Japan Business Initiative for Biodiversity) and gaining a better understanding, our Group company Furukawa Research, Inc. started the cultivation activity of *Pulsatilla cernua* designated as an Endangered Species II<sup>(note 1)</sup>, on a premise of Yokohama Works. In fiscal 2016, the plant was provided to Hiratsuka Works and Chiba Works and the cultivation activities are also implemented.

(note 1) Endangered Species II is a category of species for which the danger of extinction is becoming more serious.

#### Cultivation activity of *Pulsatilla cernua*



Hiratsuka Works



Chiba Works



Yokohama Works

### 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

# Non-financial Data

These two pages are summary of the non-financial data which are expressed in graphs in this report.

## Overview of Furukawa electric group by region (FY 2018)

P.7

	Japan	China	Asia except Japan and China	North and Central America	South America, Europe and others	Total
Number of the employees (people)	10,902	5,546	23,557	9,518	2,692	52,215
Number of the group companies (company)	40	19	34	12	16	121
Net sales (Billion yen) <sup>(note)</sup>	521.3	94.0	213.3	72.7	90.4	991.6

(note) Net sales values by regions are calculated by the customers' locations. They are the financial data but are summarized in this table.

## Greenhouse gas emissions (Unit: x10<sup>4</sup> tons CO<sub>2</sub>e)

P.11, P.65

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
CO <sub>2</sub> (Furukawa Electric and domestic group companies)	41.3	38.0	35.1	35.7	35.3	33.8
CO <sub>2</sub> (Overseas group companies)	45.5	47.5	48.1	46.1	46.0	45.6
SF <sub>6</sub> (Furukawa Electric) <sup>(note)</sup>	—	—	—	6.3	9.0	4.9
<b>Total</b>	<b>86.8</b>	<b>85.5</b>	<b>83.2</b>	<b>88.1</b>	<b>90.3</b>	<b>84.3</b>

(note) According to a partial transfer of the business of VISCAS Corporation in October 2016, SF<sub>6</sub> (sulfur hexafluoride) emissions were added on this values.

## Renewable energy ratio (Furukawa Electric + domestic group companies) (Unit: GWh)

P.11, P.66

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Renewable energy ratio (Hydroelectric power generations and others)	76	87	105	110	109
<b>Electric power consumption</b>	<b>613</b>	<b>583</b>	<b>619</b>	<b>644</b>	<b>642</b>
Renewable energy ratio (%)	12%	15%	17%	17%	17%

## Number and percentage of managers by gender (Unit: people)

P.11

		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Furukawa Electric	Number of male managers	828	844	911	905	929
	Number of female managers	22	23	26	31	31
<b>Total</b>		<b>850</b>	<b>867</b>	<b>937</b>	<b>936</b>	<b>960</b>
Female manager rate		2.6%	2.7%	2.8%	3.3%	3.2%

## Employee turnover rate by gender (Unit: %)

P.11

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Male	1.1	2.1	1.2	1.0	1.2
Female	1.5	1.0	1.8	0.9	1.6
<b>Total</b>	<b>1.1</b>	<b>2.0</b>	<b>1.2</b>	<b>1.0</b>	<b>1.2</b>

## Number of the directors (Unit: people)

P.11

		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Furukawa Electric	Directors	12	12	12	12	12	12
	Outside directors	3	4	5	5	5	5
	Independent directors	1	2	3	3	3	5
	Female directors	0	0	0	0	0	1

## Number of patent rights (Unit: patents)

P.11

		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Furukawa Electric	Domestic patents	4,558	4,449	4,564	4,571	4,523
	Overseas patents	2,166	2,236	2,263	2,450	2,640
	<b>Total</b>	<b>6,724</b>	<b>6,685</b>	<b>6,827</b>	<b>7,021</b>	<b>7,163</b>

## Number of employees receiving GENBA-RYOKU reinforcement training (Unit: people)

P.53

	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Furukawa Electric	75	76	292	423	344	156	237	215	184	305
Domestic group companies	24	42	43	88	183	159	189	265	121	101
<b>Total</b>	<b>99</b>	<b>118</b>	<b>335</b>	<b>511</b>	<b>527</b>	<b>315</b>	<b>426</b>	<b>480</b>	<b>305</b>	<b>406</b>

## Number of new graduate recruits by gender (Unit: people)

P.54

		FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Specialized staff	Male	28	45	61	73	80
	Female	8	15	31	31	31
	<b>Total</b>	<b>36</b>	<b>60</b>	<b>92</b>	<b>104</b>	<b>111</b>
	Foreign nationals	0	0	1	0	0
Professional staff	Male	0	0	15	46	49
	Female	0	0	0	0	1
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>46</b>	<b>50</b>

## Employment rate of disabled persons (Unit: %)

P.54

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Real employment rate	2.04	2.32	2.31	2.23	2.12


**Frequency rate of accidents resulting in time off work** <sup>(note 1)</sup> (Unit: —)

P.57

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Furukawa Electric	0.28	0.29	0.28	0.63	0.48
Whole domestic group companies <sup>(note 2)</sup>	0.77	0.51	0.72	0.30	0.56
Whole manufacturing industry in Japan <sup>(note 2)</sup>	1.06	1.06	1.15	1.02	1.20
All industries in Japan <sup>(note 3)</sup>	1.66	1.61	1.63	1.66	1.83

(note 1) Frequency rate = (No. of casualties / Total actual work hours) x 1,000,000

(note 2) The calculation for fiscal 2018 covered full-time employees and temporary staff at Furukawa Electric and 35 Group companies in Japan.

See page 83 for companies included in the calculation.

(note 3) Data on all industries and the whole manufacturing industry is from Japan's Ministry of Health, Labor and Welfare survey results

**Environmentally-friendly products Cumulative number of registered items and percentage of sales**

P.64

		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Furukawa Electric	Cumulative number of registered items	97	106	112	116	121
	Percentage of sales on a one-year basis	43.4	48.3	50.0	51.1	64.8
Consolidated	Cumulative number of registered items	35	75	83	92	105
	Percentage of sales on a one-year basis	24.4	30.6	32.0	32.6	40.5

(note) In fiscal 2018, the rule for the environmentally friendly products was revised (The products that reduced the greenhouse gas (GHG) in the manufacturing process, etc.) and was reflected in the aggregate calculation.

**Contribution of products avoided CO<sub>2</sub> emissions** (Unit: 10<sup>4</sup> tons-CO<sub>2</sub>e)

P.64

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Narrow bandwidth FBT (tunable wavelength laser)	1.2	1.8	2.0	1.8	1.3
Rectangular wire for HV motors	1.0	0.8	1.1	1.2	1.3
Copper foil for electrode material of lithium-ion batteries	4.2	7.7	8.2	9.2	10.4
Aluminum wire harnesses	—	—	0.6	0.7	0.8
<b>Total</b>	<b>6.4</b>	<b>10.3</b>	<b>11.9</b>	<b>12.9</b>	<b>13.8</b>

**Energy consumption** (Unit: 1,000 kℓ)

P.66

	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Furukawa Electric + domestic group companies	213	193	188	192	198	198
Overseas group companies	205	213	223	220	221	226
<b>Total</b>	<b>418</b>	<b>406</b>	<b>411</b>	<b>412</b>	<b>419</b>	<b>424</b>

**CO<sub>2</sub> emissions and energy intensity related to transportation**

P.66

		FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Furukawa Electric	CO <sub>2</sub> emissions (1,000 tons-CO <sub>2</sub> e)	14.8	14.3	14.9	16.1	15.5
	Energy intensity (MJ/t-km)	1.67	1.71	1.66	1.69	1.68

**Greenhouse gas emissions disclosed to CDP** <sup>(note 1)</sup> (Unit: 1,000 tons of CO<sub>2</sub>e / year)

P.66

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Scope1 <sup>(note 2, 3, 4)</sup>	138	155	209	238	197
Scope2 <sup>(note 2, 3)</sup>	694	676	671	665	646
Scope3 <sup>(note 2)</sup>	—	1,649	1,584	1,555	1,607
<b>Total</b>	<b>—</b>	<b>2,480</b>	<b>2,464</b>	<b>2,458</b>	<b>2,450</b>

(note 1) CDP: CDP is an organization formed from institutional investors for the purpose of managing a project requiring companies to disclose their strategies for climate change and the specific amount of greenhouse gases they generate.

(note 2) Scope 1: Direct emissions from business sites through the use of fossil fuels, etc.

Scope 2: Indirect emissions through the use of electricity, steam and heat supplied from outside of business sites

Scope 3: Other emissions include indirect emissions such as purchased products and services, business trips, commuting, upstream transport.

(note 3) Please refer page 83 for a list of all applicable companies.

(note 4) According to a partial transfer of the business of VISCAS Corporation in October 2016, SF<sub>6</sub> (sulfur hexafluoride) emissions were added on this values.
**Total amount of waste generated** (Unit: 1,000 tons)

P.67

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Furukawa Electric + domestic group companies <sup>(note)</sup>	34	34	33	30	31
Overseas group companies	23	18	18	17	16
<b>Total</b>	<b>57</b>	<b>52</b>	<b>51</b>	<b>47</b>	<b>47</b>

(note) Total amount of waste generated in Japan includes valuable resources.

**Use of water resources** (Unit: 1,000 m<sup>3</sup>)

P.67

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Furukawa Electric <sup>(note)</sup> + domestic group companies	20,983	10,715	10,289	10,362	10,516
Overseas group companies	2,732	2,621	2,579	2,652	2,624
<b>Total</b>	<b>23,715</b>	<b>13,336</b>	<b>12,868</b>	<b>13,014</b>	<b>13,140</b>

(note) From FY2015, the method of counting water usage was reviewed.

**Emissions of volatile organic compounds (VOC)** (Unit: tons)

P.68

	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Furukawa Electric	196	192	152	172	196	210	203
Domestic group companies	107	103	99	100	108	120	115
<b>Total</b>	<b>303</b>	<b>295</b>	<b>251</b>	<b>272</b>	<b>304</b>	<b>330</b>	<b>318</b>

# 11-Year Financial and Non-Financial Data

## Mid-term management plan

	Innovation 09		New Frontier 2012		
FY	2008	2009	2010	2011	2012
<b>Operating results (fiscal year)</b>					
Net sales	1,032,807	809,693	925,754	918,808	924,717
Operating income	9,752	20,321	35,144	15,947	17,763
Ordinary income	△ 14,788	19,347	31,422	12,872	17,612
Net income attributable to owners of the parent company	△ 37,405	9,704	12,213	△ 11,123	3,576
Capital investments (CAPEX)	41,275	25,433	27,947	33,581	47,772
Depreciation	46,932	42,461	40,396	39,216	35,347
Research and development expenses	19,895	17,270	18,296	18,949	20,210
<b>Financial position (at the end of fiscal year)</b>					
Net assets	190,428	208,928	215,904	197,569	222,843
Total assets	845,658	835,819	826,944	790,114	819,702
Equity Capital	142,701	163,416	165,968	144,694	165,739
Operating Assets <sup>(Note 1)</sup>	425,928	397,512	389,193	370,989	396,951
Balance of inventory assets	93,130	87,034	99,907	94,888	104,249
<b>Cash flows (fiscal year)</b>					
Cash flows from operating activities	78,728	36,668	37,121	30,774	54,947
Cash flows from investing activities	△ 51,267	△ 25,113	△ 21,382	△ 20,252	△ 44,939
Cash flows from financing activities	△ 14,552	△ 23,582	△ 18,317	△ 22,845	△ 11,402
<b>Per share data</b> <sup>(Note 2)</sup>					
Net income per share (Yen)	△ 53.34	13.80	17.30	△ 15.75	5.07
Net asset per share (Yen)	203.2	231.4	235.1	204.9	234.7
<b>Ratios</b>					
Operating income margin on sales (%)	0.94	2.51	3.80	1.74	1.92
Equity capital ratio (%)	16.9	19.6	20.1	18.3	20.2
Return on operating assets (%) <sup>(Note 3)</sup>	2.3	5.1	9.0	4.3	4.5
ROE (%)	△ 20.0	6.3	7.4	△ 7.2	2.3
ROA (%)	△ 1.6	2.3	3.8	1.6	2.2
Total asset turnover ratio (times)	1.22	0.97	1.11	1.14	1.15
<b>Non-financial data</b>					
Greenhouse gas emissions (x10 <sup>4</sup> tons CO <sub>2e</sub> ) <sup>(Note 4)</sup>	92.2	87.5	84.6	82.0	89.5
Water usage (1,000m <sup>3</sup> ) <sup>(Note 5)</sup>	27,940	27,970	28,436	29,086	29,170
Number of group employees <sup>(Note 6)</sup>	37,427	37,737	39,352	45,425	50,342
Overseas employees ratio (%)	61.9	62.9	64.3	68.7	72.4
Number of directors	12	12	12	12	11
Number of outside directors	3	3	3	3	2
Number of patent rights <sup>(Note 7)</sup>	3,942	4,668	5,210	5,225	6,035

Figures are rounded down to the nearest one million yen. Other figures of financial data and non-financial data are round to the nearest value.

(Note 1) Operating Assets are the total of inventory and tangible and intangible fixed assets.

(Note 2) We conducted a one-for-ten reverse stock split of our company's common shares effective October 1, 2016.

(Note 3) Return on operating assets is the ratio of the operating income over operating Assets.

(Million yen △ : negative values)

### Furukawa G Plan 2015

### Furukawa G Plan 2020

2013	2014	2015	2016	2017	2018
931,781	867,817	874,879	843,344	967,333	991,590
25,456	17,873	27,116	38,623	44,804	40,842
25,532	18,598	18,710	36,024	46,908	39,078
5,608	7,355	10,007	17,570	28,547	29,108
37,436	30,674	25,687	31,584	38,543	50,036
28,106	22,508	23,235	23,370	25,106	26,271
17,461	16,599	16,845	17,454	19,533	21,141
199,733	214,743	198,587	237,051	272,071	279,911
714,845	734,125	705,725	750,126	808,632	818,021
177,237	190,741	173,163	206,712	236,518	247,659
294,333	307,688	298,228	319,588	341,825	364,456
93,668	99,443	93,167	104,355	113,792	122,890
18,912	41,489	41,569	40,402	38,429	46,460
△ 40,290	△ 23,533	1,947	△ 36,361	△ 34,319	△ 31,042
29,917	△ 15,537	△ 20,942	△ 10,378	△ 1,943	△ 19,414
7.94	10.42	14.17	249.17	405.05	412.98
251.0	270.2	245.3	2,933.2	3,355.8	3,513.6
2.73	2.06	3.10	4.58	4.63	4.12
24.8	26.0	24.5	27.6	29.2	30.3
8.6	5.8	9.1	12.1	13.1	11.2
3.3	4.0	5.5	9.3	12.9	12.0
3.3	2.6	2.6	4.9	6.0	4.8
1.21	1.20	1.22	1.16	1.24	1.21
86.8	85.5	83.2	88.1	90.3	84.3
22,828	23,715	13,336	12,868	13,014	13,140
47,045	46,134	49,826	52,254	51,925	52,215
77.0	76.8	79.0	78.8	78.9	79.1
11	12	12	12	12	12
3	3	4	5	5	5
6,441	6,724	6,685	6,827	7,021	7,163

(Note 4) Please refer to page 65 about the greenhouse gas.

(Note 5) Water usage amounts of fiscal year of 2008 and 2009 are for the domestic values.

(Note 6) Number of group employees does not include the number of temporary employees and number of the employee temporarily transferred beyond the Furukawa electric group companies.

(Note 7) Number of patent rights is the total of the domestic and oversea patents.

# Consolidated Financial Statements

## Consolidated Balance Sheet (Millions of yen)

Assets		As of March 31, 2018	As of March 31, 2019	
Current assets	Cash and deposits	50,635	44,628	
	Notes and accounts receivable-trade	224,335	219,347	
	Securities	0	2,371	
	Merchandise and finished goods	36,814	40,169	
	Work in process	32,273	36,956	
	Raw materials and supplies	44,703	45,764	
	Other	28,643	32,365	
	Allowance for doubtful accounts	△ 1,215	△ 1,090	
<b>Total; Current assets</b>		<b>416,191</b>	<b>420,513</b>	
Non-current assets	Property, plant and equipment	Buildings and structures	218,385	216,932
		Machinery and delivery equipment	463,538	467,247
		Tools, furniture and fixtures	72,325	71,977
		Land	39,981	36,777
		Leased assets	3,808	3,444
		Construction in progress	20,484	36,444
		Accumulated depreciation	△ 601,794	△ 603,463
	<b>Total; Property, plant and equipment</b>		<b>216,728</b>	<b>229,360</b>
	Intangible assets	Goodwill	2,542	2,751
		Other	8,762	9,453
	<b>Total; Intangible assets</b>		<b>11,304</b>	<b>12,204</b>
	Investments and other assets	Investment securities	132,270	119,188
		Investments in capital	6,062	6,199
		Deferred tax assets	6,359	13,644
		Net defined benefit asset	5,143	5,633
Other		15,777	12,448	
Allowance for doubtful accounts		△ 1,206	△ 1,172	
<b>Total; Investments and other assets</b>		<b>164,407</b>	<b>155,942</b>	
<b>Total; Non-current assets</b>		<b>392,441</b>	<b>397,508</b>	
<b>Total assets</b>		<b>808,632</b>	<b>818,021</b>	

Liabilities		As of March 31, 2018	As of March 31, 2019
Current liabilities	Notes and accounts payable - trade	124,387	131,422
	Short-term debt	106,279	106,710
	Current portion of bonds	10,000	—
	Income taxes payable	4,024	3,893
	Provision for product defect compensation	22,827	28,400
	Other	62,815	61,193
<b>Total; Current liabilities</b>		<b>330,335</b>	<b>331,621</b>
Non-current liabilities	Bonds payable	20,000	20,000
	Long-term debt	122,227	119,298
	Deferred tax liabilities	2,327	1,547
	Provision for environmental measures	10,470	10,691
	Net defined benefit liability	43,174	47,731
	Asset retirement obligations	1,084	1,246
	Other	6,943	5,972
<b>Total; Non-current liabilities</b>		<b>206,226</b>	<b>206,488</b>
<b>Total liabilities</b>		<b>536,561</b>	<b>538,109</b>
<b>Net assets</b>			
Shareholders' equity	Capital stock	69,395	69,395
	Other capital surplus	22,271	22,535
	Retained earnings	128,130	151,744
	Treasury shares	△ 613	△ 600
<b>Total shareholders' equity</b>		<b>219,182</b>	<b>243,074</b>
Total accumulated other comprehensive income	Valuation difference on available-for-sale securities	30,020	21,788
	Deferred gains or losses on hedges	△ 495	124
	Foreign currency translation adjustment	△ 5,664	△ 8,937
	Remeasurements of defined benefit plans	△ 6,525	△ 8,391
<b>Total; Total accumulated other comprehensive income</b>		<b>17,335</b>	<b>4,584</b>
Non-controlling interests		35,552	32,252
<b>Total net assets</b>		<b>272,071</b>	<b>279,911</b>
<b>Total liabilities and net assets</b>		<b>808,632</b>	<b>818,021</b>

## Consolidated Financial Statements

### Consolidated Statement of income and Consolidated Statement of Comprehensive income

#### Consolidated Statement of income (Millions of yen)

		for the Fiscal Year Ended March 31, 2018	for the Fiscal Year Ended March 31, 2019
Net sales		967,333	991,590
Cost of sales		801,411	824,481
<b>Gross profit</b>		<b>165,921</b>	<b>167,108</b>
SG&A	Selling expenses	39,047	40,044
	G&A expenses	82,069	86,221
<b>Total; SG&amp;A</b>		<b>121,117</b>	<b>126,266</b>
<b>Operating income</b>		<b>44,804</b>	<b>40,842</b>
Non-operating income	Interest income	654	607
	Dividend income	1,910	2,765
	Profit in equity method affiliates	4,311	1,685
	Other	3,581	1,796
<b>Total; Non-operating income</b>		<b>10,457</b>	<b>6,855</b>
Non-operating expenses	Interest expenses	3,977	4,075
	Foreign exchange losses	1,216	1,100
	Other	3,158	3,443
<b>Total; Non-operating expenses</b>		<b>8,352</b>	<b>8,619</b>
<b>Ordinary income</b>		<b>46,908</b>	<b>39,078</b>
Extraordinary income	Gain on disposal of non-current assets	9,362	3,779
	Gain on sales of investment securities	220	4,952
	Other	193	1,154
<b>Total; Extraordinary income</b>		<b>9,776</b>	<b>9,887</b>
Extraordinary losses	Loss on disposal of non-current assets	967	2,779
	Impairment loss	3,122	2,627
	Provision for product defect compensation	7,157	6,364
	Provision for loss on litigation	2,131	—
	Other	2,840	1,436
<b>Total; Extraordinary losses</b>		<b>16,219</b>	<b>13,208</b>
<b>Profit before income taxes</b>		<b>40,466</b>	<b>35,757</b>
Income taxes - current		8,402	8,811
Income taxes - deferred		△ 251	△ 5,500
<b>Total; Income taxes</b>		<b>8,151</b>	<b>3,310</b>
<b>Net income</b>		<b>32,314</b>	<b>32,446</b>
<b>Net income attributable to non-controlling interests</b>		<b>3,767</b>	<b>3,338</b>
<b>Net income attributable to owners of the parent company</b>		<b>28,547</b>	<b>29,108</b>

#### Consolidated Statement of Comprehensive income (Millions of yen)

		for the Fiscal Year Ended March 31, 2018	for the Fiscal Year Ended March 31, 2019
Net income		32,314	32,446
Other comprehensive income	Valuation difference on available-for-sale securities	3,561	△ 8,055
	Deferred gains or losses on hedges	△ 1,205	733
	Foreign currency translation adjustment	703	△ 2,792
	Remeasurements of defined benefit plans, net of tax	1,786	△ 1,787
	Share of other comprehensive income of entities accounted for using equity method	524	△ 1,408
<b>Total; Other comprehensive income</b>		<b>5,369</b>	<b>△ 13,309</b>
<b>Comprehensive income</b>		<b>37,684</b>	<b>19,137</b>
(Comprehensive income attributable to)	Comprehensive income attributable to owners of parent	33,455	16,194
	Comprehensive income attributable to non-controlling interests	4,229	2,943

## Consolidated Statement of Cash Flows (Millions of yen)

		for the Fiscal Year Ended March 31, 2018	for the Fiscal Year Ended March 31, 2019
Cash flows from operating activities	Profit/Loss before income taxes	40,466	35,757
	Depreciation	25,106	26,271
	Loss (Profit; △) in equity method affiliates	△ 4,311	△ 1,685
	Loss (gain; △) in sales of marketable securities and investment securities	△ 221	△ 4,954
	Loss (gain; △) on disposal of non-current assets	△ 8,394	△ 1,000
	Impairment loss	3,122	2,627
	Loss on valuation of inventories	1,297	1,366
	Interest and dividend income	△ 2,564	△ 3,373
	Interest expenses	3,977	4,075
	Foreign exchange losses (gains; △)	△ 137	△ 111
	Decrease (increase; △) in notes and accounts receivable - trade	△ 26,363	1,196
	Decrease (increase; △) in inventories	△ 9,387	△ 11,479
	Increase (decrease; △) in notes and accounts payable - trade	17,057	6,009
	Increase (decrease; △) in liability for retirement benefits	△ 142	2,165
	Increase (decrease; △) in provision for environmental costs	△ 1,083	223
	Increase (decrease; △) in provision for product defect compensation	6,814	5,785
	Other	1,200	△ 7,604
	<b>Subtotal</b>	<b>46,436</b>	<b>55,271</b>
	Interest and dividend income received	3,961	4,732
Interest expenses paid	△ 3,953	△ 4,152	
Income taxes (paid; △) refund	△ 8,014	△ 9,390	
<b>Cash flows from operating activities</b>	<b>38,429</b>	<b>46,460</b>	
Cash flows from investing activities	Decrease (increase; △) in time deposits	190	767
	Purchase of investment securities	△ 799	△ 2,924
	Proceeds from sales and redemption of investment securities	526	9,051
	Proceeds from sales of investments in subsidiaries resulting in change in scope of consolidation	72	1,829
	Purchase of investments in subsidiaries resulting in change in scope of consolidation	—	138
	Purchase of property, plant and equipment	△ 34,349	△ 43,053
	Purchase of intangible assets	△ 3,533	△ 3,997
	Proceeds from sales of non-current assets	9,951	5,515
	Decrease (increase; △) in short-term loans receivable	△ 5,886	2,182
Other	△ 491	△ 550	
<b>Cash flows from investing activities</b>	<b>△ 34,319</b>	<b>△ 31,042</b>	
Cash flows from financing activities	Net increase (decrease; △) in short-term loans payable	875	4,140
	Proceeds from long-term loans payable	19,668	26,186
	Repayments of long-term loans payable	△ 17,778	△ 31,421
	Proceeds from issuance of bonds	10,000	—
	Redemption of bonds	△ 10,000	△ 10,000
	Proceeds from non-controlling shareholders	1,649	—
	Payment for purchase of common treasury stock	△ 3	△ 1
	Payment for purchase of common treasury stock by subsidiaries	△ 161	△ 8
	Cash dividends paid	△ 3,885	△ 5,647
	Cash dividends paid to non-controlling shareholders	△ 1,226	△ 2,291
Other	△ 1,081	△ 372	
<b>Cash flows from financing activities</b>	<b>△ 1,943</b>	<b>△ 19,414</b>	
Effect of exchange rate change on cash and cash equivalents	1,040	853	
<b>Net increase (decrease; △) in cash and cash equivalents</b>	<b>3,206</b>	<b>△ 3,142</b>	
Cash and cash equivalents at beginning of the year	46,147	49,758	
Increase in cash and cash equivalents from newly consolidated subsidiary	463	223	
Decrease in cash and cash equivalents resulting from exclusion of subsidiaries from consolidation	△ 59	—	
<b>Cash and cash equivalents at end of the year</b>	<b>49,758</b>	<b>46,838</b>	

# Consolidated Financial Statements

## Consolidated Statement of changes in net assets

for the Fiscal Year Ended March 31, 2018 (Millions of yen)

		Shareholders' equity				
		Common stock	Capital surplus	Retained earnings	Common treasury stock	Total shareholders' equity
Balance at March 31, 2017		69,395	21,562	103,942	△ 633	194,267
Net change during the year	Cash dividends paid			△ 3,884		△ 3,884
	Profit attributable to owners of parent			28,547		28,547
	Net effect of decrease in consolidated subsidiaries			△ 475		△ 475
	Acquisition of treasury stock				△ 3	△ 3
	Disposal of treasury stock				23	23
	Net effect of change in parent's equity due to transaction with non-controlling interests		708			708
	Net change in items other than those in shareholders' equity					
Total; Net change during the year		—	708	24,187	19	24,915
Balance at March 31, 2018		69,395	22,271	128,130	△ 613	219,182

		Accumulated other comprehensive income					Non-controlling interests	Total net assets
		Unrealized gain on available-for-sale securities	Deferred gain (loss) on derivatives under hedge accounting	Foreign currency translation adjustments	Adjustment for retirement benefits	Total accumulated other comprehensive income		
Balance at March 31, 2017		26,622	717	△ 6,756	△ 8,138	12,445	30,338	237,051
Net change during the year	Cash dividends paid							△ 3,884
	Profit attributable to owners of parent							28,547
	Net effect of decrease in consolidated subsidiaries							△ 475
	Acquisition of treasury stock							△ 3
	Disposal of treasury stock							23
	Net effect of change in parent's equity due to transaction with non-controlling interests							708
	Net change in items other than those in shareholders' equity	3,398	△ 1,213	1,092	1,612	4,890	5,213	10,104
Total; Net change during the year		3,398	△ 1,213	1,092	1,612	4,890	5,213	35,020
Balance at March 31, 2018		30,020	△ 495	△ 5,664	△ 6,525	17,335	35,552	272,071

**for the Fiscal Year Ended March 31, 2019** (Millions of yen)

		Shareholders' equity				
		Common stock	Capital surplus	Retained earnings	Common treasury stock	Total shareholders' equity
Balance at March 31, 2018		69,395	22,271	128,130	△ 613	219,182
Net change during the year	Cash dividends paid			△ 5,649		△ 5,649
	Profit attributable to owners of parent			29,108		29,108
	Net effect of increase in consolidated subsidiaries			258		258
	Net effect of decrease in consolidated subsidiaries			△ 60		△ 60
	Net effect of decrease in an affiliated company accounted for by the equity method due to change in scope of equity method			△ 43		△ 43
	Acquisition of treasury stock				△ 1	△ 1
	Disposal of treasury stock				15	15
	Net effect of change in parent's equity due to transaction with non-controlling interests		264			264
Net change in items other than those in shareholders' equity						
Total; Net change during the year		—	264	23,613	13	23,891
Balance at March 31, 2019		69,395	22,535	151,744	△ 600	243,074

		Accumulated other comprehensive income					Non-controlling interests	Total net assets
		Unrealized gain on available-for-sale securities	Deferred gain (loss) on derivatives under hedge accounting	Foreign currency translation adjustments	Adjustment for retirement benefits	Total accumulated other comprehensive income		
Balance at March 31, 2018		30,020	△ 495	△ 5,664	△ 6,525	17,335	35,552	272,071
Net change during the year	Cash dividends paid							△ 5,649
	Profit attributable to owners of parent							29,108
	Net effect of increase in consolidated subsidiaries							258
	Net effect of decrease in consolidated subsidiaries							△ 60
	Net effect of decrease in an affiliated company accounted for by the equity method due to change in scope of equity method							△ 43
	Acquisition of treasury stock							△ 1
	Disposal of treasury stock							15
	Net effect of change in parent's equity due to transaction with non-controlling interests							264
Net change in items other than those in shareholders' equity		△ 8,232	620	△ 3,273	△ 1,866	△ 12,750	△ 3,300	△ 16,050
Total; Net change during the year		△ 8,232	620	△ 3,273	△ 1,866	△ 12,750	△ 3,300	7,840
Balance at March 31, 2019		21,788	124	△ 8,937	△ 8,391	4,584	32,252	279,911

# Company Profile and Stock / Dividends Information

## Company Profile

Company Name	Furukawa Electric Co., Ltd.
President	Keiichi Kobayashi
Founded	1884
Established	1896
Paid-in Capital (As of March 31, 2019)	¥69,395 million
Net sales (Years ended March 31, 2019)	¥991,590 million (Consolidated) ¥473,626 million (Non-Consolidated)
Number of Employees (As of March 31, 2019)	52,215 (Consolidated) 3,816 (Non-Consolidated)
Head Office	Marunouchi Nakadori Bldg., 2-3, Marunouchi 2-chome, Chiyoda-ku, Tokyo 100-8322, Japan
TEL.	+81-3-3286-3001
Web site	<a href="https://www.furukawa.co.jp/">https://www.furukawa.co.jp/</a>

## Domestic Locations (Furukawa Electric Co., Ltd.)

As of March 31, 2019



## General stock information

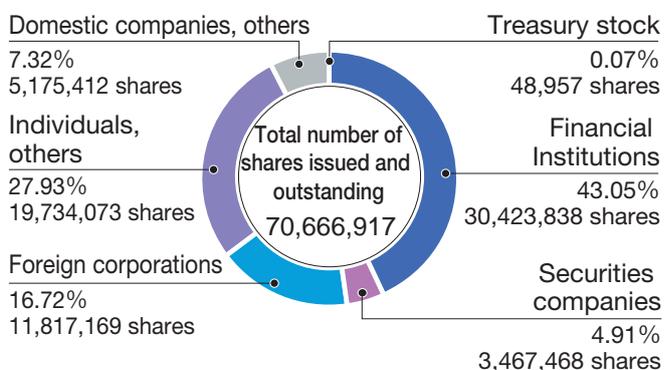
As of March 31, 2019

Stock Code on the Tokyo Stock Exchange	5801	
Stock Exchange Listings	Tokyo Stock Exchange, First Section	
Number of shares authorized	Common Stock	250,000,000 shares
Common stock issued	Common Stock	70,666,917 shares
Minimum trading units	100 shares <sup>(note)</sup>	
Shareholder register agent	2-1 Yaesu 1-chome, Chuo-ku, Tokyo, Japan Mizuho Trust & Banking Co., Ltd.	
Fiscal year	From April 1 to March 31	
Shareholders' meeting	June each year	

(note) We changed the number of shares in a unit of the company's ordinary shares from 1,000 shares to 100 shares with an effective date of October 1, 2016.

## Distribution of ordinary stock among shareholders

As of March 31, 2019



## Major top 10 shareholders of the Company and the Company's capital contributions to such shareholders

As of March 31, 2019

Name of major shareholders	Number of shares	Shareholding ratio
Japan Trustee Services Bank, Ltd. (Trust Account)	6,893,200	9.76%
The Master Trust Bank of Japan, Ltd. (Trust Account)	5,178,300	7.33%
Trust & Custody Services Bank, Ltd. (Mizuho Trust & Banking; Employee Retirement Benefit Trust, Mizuho Bank Account)	2,413,500	3.42%
Japan Trustee Services Bank, Ltd. (Trust Account 4)	2,269,500	3.21%
Asahi Mutual Life Insurance Company	1,365,050	1.93%
FURUKAWA CO., LTD.	1,329,045	1.88%
Japan Trustee Services Bank, Ltd. (Trust Account 5)	1,120,800	1.59%
Fuji Electric Co., Ltd.	1,100,000	1.56%
Trust & Custody Services Bank, Ltd. (Mizuho Trust & Banking; Employee Retirement Benefit Trust, FURUKAWA CO., LTD. Account)	1,091,900	1.55%
Trust & Custody Services Bank, Ltd. (Mizuho Trust & Banking; Employee Retirement Benefit Trust, Asahi Mutual Life Insurance Company Account)	1,050,000	1.49%

(note) 1. Shareholding ratio is calculated with the number which deducted 48,957 shares of the Company's treasury stock.

2. In addition to the 2,413,500 shares in a retirement benefits trust mentioned above, Mizuho Bank, Ltd. has a further 173 shares in the Company.

## Cash dividends per common share (including forecast)

Fiscal year	Interim dividend (yen)	Year-end dividend (yen)	Total dividend (yen)
2009	2.5	2.5	5.0
2010	2.5	3.0	5.5
2011	2.5	0	2.5
2012	0	3.0	3.0
2013	0	3.0	3.0
2014	0	3.0	3.0
2015	0	4.0	4.0
2016	0	55 <sup>(note)</sup>	55 <sup>(note)</sup>
2017	0	80 <sup>(note)</sup>	80 <sup>(note)</sup>
2018	0	85 <sup>(note)</sup>	85 <sup>(note)</sup>
2019 (forecast)	0	85 <sup>(note)</sup>	85 <sup>(note)</sup>

(note) We have carried out a reverse stock split at a ratio of 1 share for every 10 ordinary shares with an effective date of October 1, 2016. The amounts if the reverse stock split is not conducted will be, respectively: change 55 yen to 5.5 yen, change 80 yen to 8.0 yen, and change 85 yen to 8.5 yen.

## Highest/Lowest annual stock price

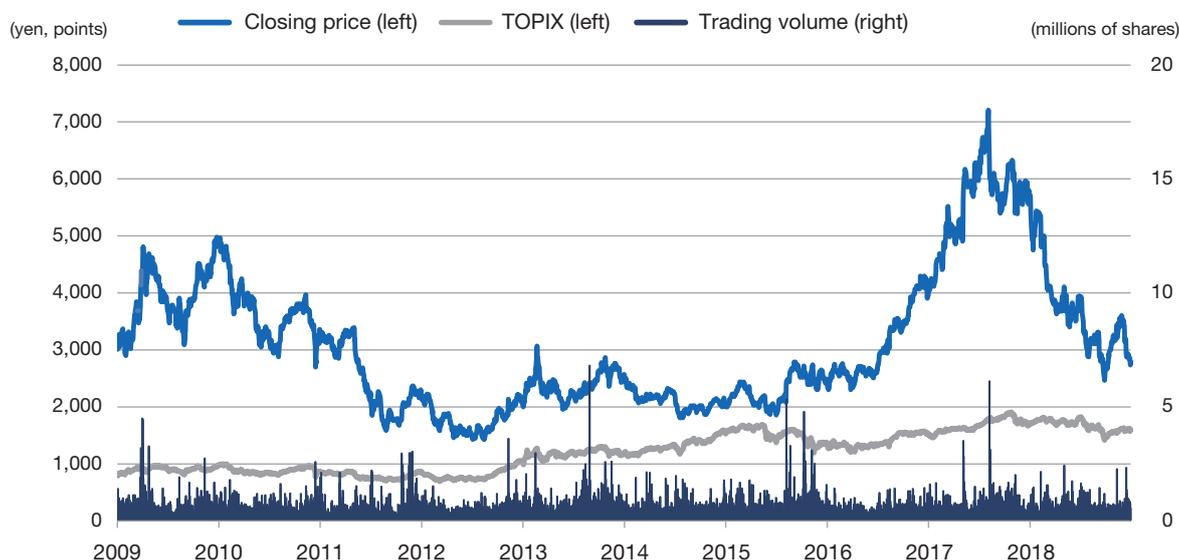
Fiscal year	Highest price (yen)	Lowest price (yen)
2009	499	284
2010	507	241
2011	341	155
2012	228	141
2013	326	194
2014	259	177
2015	283	184
2016	4,380 (280)	2,718 (227)
2017	7,230	3,985
2018	5,760	2,453

(note) 1. The stock prices are market prices on the first section of the Tokyo Stock Exchange.

2. We have carried out a reverse stock split at a ratio of 1 share for every 10 ordinary shares with an effective date of October 1, 2016. For the stock price in fiscal 2016, the highest and lowest stock price after the reverse stock split are shown, and highest and lowest share prices before the reverse stock split are shown in parentheses.

## Stock price and trading volume

from April 1, 2009 to March 31, 2019



(note) We have carried out a reverse stock split at a ratio of 1 share for every 10 ordinary shares with an effective date of October 1, 2016. In addition, the number of shares in unit of the company's ordinary shares has changed from 1,000 shares to 100 shares. Because of this, in the graph, the pre-September 2016 stock prices are shown as 10 times, and the trading volume is shown as 1/10.

# Environmental Certifications and External Evaluations (As of August, 2019)

## International standards of the environmental management (ISO14001)

International standards of the environmental management, ISO 14001 are acquired at 7 works, which have the production function, of Furukawa Electric and 22 domestic group companies. ISO14001 is also acquired at 32 overseas group companies.

### Furukawa Electric Co., Ltd.

Chiba Works  
Nikko Works  
Hiratsuka Works  
Mie Works  
Yokohama Works  
Copper Tube Division  
Copper Foil Division

### Domestic group companies

NTEC Ltd.  
Okano Electric Wire Co., Ltd.  
Okumura Metals Co., Ltd.  
KANZACC Co., Ltd.  
Shodensha Co., Ltd.  
Seiwa Giken Inc.  
TOTOKU Electric Co., Ltd.  
Foam Kasei Co., Ltd.  
Furukawa Automotive Systems Inc.  
Furukawa FITELE Optical Device Co., Ltd.  
Furukawa Sangyo Kaisha, Ltd.  
Furukawa Industrial Plastics Co., Ltd.  
Furukawa Precision Engineering Co., Ltd.  
Furukawa Techno Material Co., Ltd.  
Furukawa Electric Industrial Cable Co., Ltd.  
Furukawa Electric Power Systems Co., Ltd.  
The Furukawa Battery Co., Ltd.  
Furukawa Nikko Power Generation Inc.  
Furukawa Logistics Corp.  
Furukawa Magnet Wire Co., Ltd.  
Miharu Communications Inc.  
Riken Electric Wire Co., Ltd.

### Overseas group companies

Chongqing Changhua Automobile Harness Co., Ltd.  
FE Magnet Wire (Malaysia) Sdn. Bhd.  
Furukawa Auto Parts (Huizhou) Ltd.  
Furukawa Automotive Parts (Dongguan) Ltd.  
Furukawa Automotive Parts(Vietnam) Inc.  
Furukawa Automotive Systems (Thailand) Co., Ltd.  
Furukawa Automotive Systems Lima Philippines, Inc.  
Furukawa Automotive Systems (Vietnam) Inc.  
Furukawa AVC Electronics (Suzhou) Co., Ltd.  
Furukawa Circuit Foil Taiwan Corporation  
Furukawa Electric Autoparts Philippines, Inc.  
Furukawa Electric Copper Foil Taiwan Co., Ltd.  
Furukawa Electric LatAm S.A.  
Furukawa Electric (Shenzhen) Co., Ltd.  
Furukawa FITELE (Thailand) Co., Ltd.  
Furukawa Metal (Thailand) Public Co., Ltd.  
Furukawa Mexico S.A. de C.V.  
Furukawa Minda Electric Pvt. Ltd.  
Furukawa Precision (Thailand) Co., Ltd.  
OFS Fitele Deutschland GmbH  
OFS FITELE, LLC  
OFS Sviazstroy-1 Fiber Optic Cable Company  
Permintex Furukawa Autoparts Malaysia Sdn. Bhd.  
POLIFOAM MUANYAGFELDOLGOZO KFT  
PT. Furukawa Automotive Systems Indonesia  
PT. Furukawa Optical Solutions Indonesia  
PT. Tembaga Mulia Semanan, Tbk  
Shenyang Furukawa Cable Co., Ltd.  
Siam Furukawa Co., Ltd.  
Suzhou Furukawa Power Optic Cable Co., Ltd.  
Taiwan Furukawa Magnet Wire Co., Ltd.  
Thai Fiber Optics Co., Ltd.



ISO14001 Certification of the Mie works, Furukawa Electric

## External Evaluations

### Evaluation related to the Innovation

Furukawa Electric was selected as “Top 100 Global Innovator” sequentially last year, by the Clarivate Analytics plc.



### Evaluation related to the Health and Productivity Management



Furukawa Electric was selected as “The 2019 Health & Productivity Stock Selection” for the first time.



Furukawa Electric was selected as “Health and Productivity Management Organization (White 500)” for a third consecutive year.

### Evaluations related to the woman empowering and the support for the development of the next generation



Furukawa Electric was selected as “MSCI Japan Empowering Woman Index (WIN).”

“Eruboshi (L star: L stands for Lady, Labour and Laudable)” is acquired continuously from 2016 by the Ministry of Health, Labour and Welfare.



“Kurumin”— accredited as a company that actively supports the development of the next generation.



## List of all applicable companies

Page.  
57

### Occupational Health and Safety Scope of the frequency rate of accidents resulting in time off work

#### 35 Domestic group companies

- |  |   |  |
|--|---|--|
| 1 NTEC Ltd.  | 14 Furukawa Industrial Plastics Co., Ltd.           | 27 The Furukawa Finance and Business Support Co., Ltd. |
| 2 Okano Electric Wire Co., Ltd.                      | 15 Furukawa Precision Engineering Co., Ltd.         | 28 Furukawa Logistics Corp.                            |
| 3 Okumura Metals Co., Ltd.                           | 16 Furukawa Techno Material Co., Ltd.               | 29 Furukawa Magnet Wire Co., Ltd.                      |
| 4 KANZACC Co., Ltd.                                  | 17 Furukawa Research Inc.                           | 30 Furukawa UACJ Memory Disk Co., Ltd.                 |
| 5 Shodensha Co., Ltd.                                | 18 Furukawa Electric Advanced Engineering Co., Ltd. | 31 Furukawa Life Service Inc.                          |
| 6 Seiwa Giken Inc.                                   | 19 Furukawa Electric Ecotec Co., Ltd.               | 32 Miharu Communications Inc.                          |
| 7 TOTOKU Electric Co., Ltd.                          | 20 Furukawa Electric Industrial Cable Co., Ltd.     | 33 Myojodenki Co., Ltd.                                |
| 8 Foam Kasei Co., Ltd.                               | 21 Furukawa Electric Power Systems Co., Ltd.        | 34 Yokohama Drum Manufacturing Co., Ltd.               |
| 9 Furukawa Automotive Systems Inc.                   | 22 The Furukawa Battery Co., Ltd.                   | 35 Riken Electric Wire Co., Ltd.                       |
| 10 Furukawa S and D Co., Ltd.                        | 23 Furukawa Nikko Power Generation Inc.             |  |
| 11 Furukawa Elecom Co., Ltd.                         | 24 Furukawa New Leaf Co., Ltd.                      |  |
| 12 Furukawa Sangyo Kaisha, Ltd.                      | 25 Furukawa Network Solution Corp.                  |  |
| 13 Furukawa Communication and Broadcasting Co., Ltd. | 26 Furukawa FITEL Optical Device Co., Ltd.          |  |

Page.  
60

### Environmental Management Scope of the environmental management

#### 34 Domestic group companies

- |                                     |  |  |
|-------------------------------------|--|--|
| 1 NTEC Ltd.                         | 14 Furukawa Communication and Broadcasting Co., Ltd. | 25 Furukawa New Leaf Co., Ltd.                         |
| 2 FCM Co., Ltd.                     | 15 Furukawa Industrial Plastics Co., Ltd.            | 26 Furukawa Network Solution Corp.                     |
| 3 Okano Electric Wire Co., Ltd.     | 16 Furukawa Precision Engineering Co., Ltd.          | 27 Furukawa FITEL Optical Device Co., Ltd.             |
| 4 Okumura Metals Co., Ltd.          | 17 Furukawa Techno Material Co., Ltd.                | 28 The Furukawa Finance and Business Support Co., Ltd. |
| 5 KANZACC Co., Ltd.                 | 18 Furukawa Research Inc.                            | 29 Furukawa Logistics Corp.                            |
| 6 Shodensha Co., Ltd.               | 19 Furukawa Electric Advanced Engineering Co., Ltd.  | 30 Furukawa Magnet Wire Co., Ltd.                      |
| 7 Seiwa Giken Inc.                  | 20 Furukawa Electric Ecotec Co., Ltd.                | 31 Furukawa Life Service Inc.                          |
| 8 TOTOKU Electric Co., Ltd.         | 21 Furukawa Electric Industrial Cable Co., Ltd.      | 32 Miharu Communications Inc.                          |
| 9 FITEC Corp.                       | 22 Furukawa Electric Power Systems Co., Ltd.         | 33 Myojodenki Co., Ltd.                                |
| 10 Foam Kasei Co., Ltd.             | 23 The Furukawa Battery Co., Ltd.                    | 34 Riken Electric Wire Co., Ltd.                       |
| 11 Furukawa Automotive Systems Inc. | 24 Furukawa Nikko Power Generation Inc.              |  |
| 12 Furukawa Elecom Co., Ltd.        |  |  |
| 13 Furukawa Sangyo Kaisha, Ltd.     |  |  |

#### 54 Overseas group companies

- |   |   |
|---|---|
| 1 American Furukawa, Inc.                               | 28 Furukawa Mexico S.A. De C.V.                   |
| 2 Chongqing Changhua Automobile Harness Co., Ltd.       | 29 Furukawa Precision (Thailand) Co., Ltd.        |
| 3 FE Magnet Wire (Malaysia) Sdn. Bhd.                   | 30 Furukawa Shanghai, Ltd.                        |
| 4 Furukawa (Thailand) Co., Ltd.                         | 31 Furukawa Wiring Systems Mexico S.A. de C.V.    |
| 5 Furukawa Auto Parts (Huizhou) Co., Ltd.               | 32 HT Italia Holding S.r.l.                       |
| 6 Furukawa Automotive Parts (Dongguan) Ltd.             | 33 OFS Fitel Denmark Aps                          |
| 7 Furukawa Automotive Parts (Vietnam) Inc.              | 34 OFS FITEL Deutschland GmbH                     |
| 8 Furukawa Automotive Systems (Thailand) Co., Ltd.      | 35 OFS Fitel, LLC                                 |
| 9 Furukawa Automotive Systems Lima Philippines, Inc.    | 36 P.T. Furukawa Automotive Systems Indonesia     |
| 10 Furukawa Automotive Systems Mexico S.A. de C.V.      | 37 P.T. Furukawa Optical Solutions Indonesia      |
| 11 Furukawa Automotive Systems Vietnam Inc.             | 38 P.T. Tembaga Mulia Seman, Tbk.                 |
| 12 Furukawa AVC Electronics (Suzhou) Co., Ltd.          | 39 Permintex Furukawa Autoparts Malaysia Sdn.Bhd. |
| 13 Furukawa Cabos e Acessorios Ltda.                    | 40 Polifoam Plastic Processing Co., Ltd.          |
| 14 Furukawa Circuit Foil Taiwan Corporation             | 41 Shenyang Furukawa Cable Co., Ltd.              |
| 15 Furukawa Electric (Shenzhen) Co., Ltd.               | 42 Siam Furukawa Co., Ltd.                        |
| 16 Furukawa Electric Autoparts Central Europe s.r.o.    | 43 SuperPower Inc.                                |
| 17 Furukawa Electric Autoparts Philippines Inc.         | 44 Suzhou Furukawa Power Optic Cable Co., Ltd.    |
| 18 Furukawa Electric Copper Foil Taiwan Co., Ltd.       | 45 Taiwan Furukawa Electric Co., Ltd.             |
| 19 Furukawa Electric Europe Ltd.                        | 46 Taiwan Furukawa Magnet Wire Co., Ltd.          |
| 20 Furukawa Electric Hong Kong Ltd.                     | 47 Thai Fiber Optics Co., Ltd.                    |
| 21 Furukawa Electric Institute of Technology Ltd.       | 48 Thai Furukawa Unicomm Engineering Co., Ltd.    |
| 22 Furukawa Electric LatAm S.A.                         | 49 Tianjin Jinhe Electric Engineering Co., Ltd.   |
| 23 Furukawa Electric Singapore Pte. Ltd.                | 50 Trocellen GmbH                                 |
| 24 Furukawa FITEL (Thailand) Co., Ltd.                  | 51 Trocellen Italy S.p.A.                         |
| 25 Furukawa FITEL Optical Products (Shanghai) Co., Ltd. | 52 Trocellen S.E.A. Sdn. Bhd.                     |
| 26 Furukawa Industrial S.A. Sucursal Argentina          | 53 Wuhan Furukawa Automotive Systems Co., Ltd.    |
| 27 Furukawa Metal (Thailand) Public Co., Ltd.           | 54 Xin Furukawa Metal (Wuxi) Co., Ltd.            |

Page.  
61

### Environmental Management Scope of the environmental accounting

#### 22 Domestic group companies

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|---------------------------------|--|---|
| 1 FCM Co., Ltd.                 | 9 Furukawa Automotive Systems Inc.                   | 16 Furukawa Electric Industrial Cable Co., Ltd. |
| 2 Okano Electric Wire Co., Ltd. | 10 Furukawa Sangyo Kaisha, Ltd.                      | 17 Furukawa Electric Power Systems Co., Ltd.    |
| 3 Okumura Metals Co., Ltd.      | 11 Furukawa Communication and Broadcasting Co., Ltd. | 18 The Furukawa Battery Co., Ltd.               |
| 4 KANZACC Co., Ltd.             | 12 Furukawa Industrial Plastics Co., Ltd.            | 19 Furukawa FITEL Optical Device Co., Ltd.      |
| 5 Shodensha Co., Ltd.           | 13 Furukawa Precision Engineering Co., Ltd.          | 20 Furukawa Magnet Wire Co., Ltd.               |
| 6 Seiwa Giken Inc.              | 14 Furukawa Techno Material Co., Ltd.                | 21 Miharu Communications Inc.                   |
| 7 TOTOKU Electric Co., Ltd.     | 15 Furukawa Electric Advanced Engineering Co., Ltd.  | 22 Riken Electric Wire Co., Ltd.                |
| 8 Foam Kasei Co., Ltd.          |  |   |

(note) FCM Co.,Ltd. had been included in this scope until the end of December 2018.

**FURUKAWA ELECTRIC CO., LTD.**

<https://www.furukawa.co.jp/en/>