

# / Environmental Initiatives

### **Basic Stance**

The UACJ Group is thankful for the earth and the abundance of life it supports. That feeling underlies our basic stance on the environment, and we have publicly declared our aim to reduce our environmental burden in all aspects of our business activities.

The economic activities of humankind are now of such a scale that they are having enormous impacts on the global environment and giving rise to various problems, including extreme weather, imbalances in ecosystems, and depletion of natural resources. These are sustainability risks for the UACJ Group and ultimately for the earth. Our basic stance on the environment, therefore, is to ascertain what we can do to lower our environmental burden and then work steadily to achieve what is possible.

# Fiscal 2015 Objectives and Performance

	Fiscal 2015 Objective	Fiscal 2015 Performance	Assessment	Fiscal 2016 Objective
Elimination of Serious Environmental Accidents	Zero accidents	Zero ro accidents 1 × 2 accident		Zero accidents
Measures to Fight Global Warming	Reduction of energy used increase per unit of production unit of production		×	Reduction of energy used per unit of production
Realization of a Recycling-	Reduction of waste generated per unit of production	2.2% increase per unit of production	×	Reduction of waste generated per unit of production
Oriented Society	Continuation of zero emissions*	Continuation of zero emissions	0	Continuation of zero emissions

1

	Fiscal 2015 Objective	Fiscal 2015 Performance	Assessment	Fiscal 2016 Objective
Chemical Substance Control	Reduction of PRTR- controlled VOC emissions per unit of production	4.0% reduction per unit of production	0	Reduction of PRTR-controlled VOC emissions per unit of production

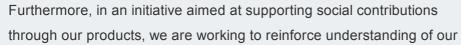
<sup>\*</sup> Within the UACJ Group, "zero emissions" is defined as direct landfill disposal of less than 1% of all industrial waste generated.

# **Looking to the Future**

In fiscal 2015, objectives for reducing energy used per unit of production and industrial waste generated per unit of production were not achieved due to the overwhelming impact of a decline in production volume. In fiscal 2016, as well, it is possible that we may face various hurdles in achieving our objectives. Nevertheless, with new ideas and persistence, we will continue with efforts to achieve our objectives.

### **Comment by the Executive in Charge**

With heightened environmental awareness around the globe, attention is refocusing on potential uses for aluminum and copper in various fields. Both of these metals stand out for their thermal conductivity, workability, and recyclability. And the UACJ Group, as a comprehensive manufacturer in the global markets for aluminum and copper products, is making the most of the characteristics of these metals to contribute to society. Our products make automobiles lighter and air-conditioning equipment more efficient, increase the recycling rate for beverage containers, and help to lower environmental burden in other ways, as well. Through actions such as the construction of one of the world's largest furnaces for recycling used beverage cans, at Logan Aluminum Inc. (located in Louisville, Kentucky), and the establishment of a facility for producing aluminum materials for use in making body panels for automobiles, at Constellium-UACJ ABS LLC (located in Bowling Green, Kentucky), we are creating a product supply system that will effectively contribute to the lowering of environmental burden on a global basis.





Managing Executive Officer Tatsuro Matsuura

Group-wide environmental stance at all UACJ Group companies throughout the world, acting to ensure that all Group employees are keenly aware of environmental issues, and pushing ahead with energy-saving and industrial waste reduction measures at all of our manufacturing locations.

Looking to the future, the UACJ Group is united in its pursuit of environmentally conscious management to support the realization of a sustainable society.



# Environmental Management

# **UACJ Group Basic Environmental Policies**

## Corporate Philosophy

The UACJ Group is thankful for the earth and the abundance of life it supports, and recognizes that the fate of all living things hangs on the condition of the earth's environment. Therefore, we see protection of the global environment and the promotion of a recycling-oriented society as one of our highest priorities and are committed to reducing environmental impact in all aspects of our business activities.

### Guidelines

- 1. We will make the necessary organizational arrangements and allocate the required management resources to advance activities that are cognizant of the need to protect the global environment.
- 2. We will work to continuously improve the quality of our environmental protection activities by assessing the environmental impacts of our present and future business activities and using the results to establish technologically and economically practical environmental improvement measures and specific objectives.
- 3. We will abide by environmental laws, regulations, and agreements, and formulate our own standards in actively working to protect the environment. At the same time, we will advance activities cognizant of the need to improve work environments, as well.
- 4. We will work to reduce our resource and energy usage, promote recycling, and reduce waste in all areas of our business activities, including the environmental impacts of the products we handle.
- 5. We will work to maintain or improve the environment by conducting environmental audits and constantly revising environmental management items and standards.
- 6. We will work to raise environmental awareness among all of our employees by using internal Group-wide communications activities and other measures to promote understanding of our basic stance on the environment.
- 7. We will contribute to and develop ties with local communities.

Given our basic stance on the environment, as set forth above, we are pursuing the following activities.

- 1. Measures to fight global warming and reduce CO2
  - (1) Advancement of energy-saving measures
  - (2) Advancement of fuel conversion
- 2. Development of a recycling-oriented society
  - (1) Advancement of the 3R<sup>(\*1)</sup> resource conservation measures
  - (2) Increasing our scrap usage ratio
  - (3) Reduction of industrial waste generated
  - (4) Reduction of landfill waste generated
- 3. Proper control of chemical substances
  - (1) Proper control of chemical substances in products
  - (2) Reduction of volatile organic compounds (VOCs)
  - (3) Reduction of PRTR<sup>(\*2)</sup> substances
  - (4) Establishment of an environmental quality management system that is trusted by customers
- 4. Compliance with laws and ordinances
  - Compliance with domestic and overseas laws and ordinances
- Establishment of an environmental management system
   Continuous improvement and enhancement of our environmental stewardship through the application of an environmental management system.
- Promotion of environmental education
   Steps to enlighten all employees and raise their awareness on environmental matters.
- 7. Improvement of the environmental performance of aluminum products Contributions to the improvement of the environmental performance of our customers' products by developing and providing materials that make the most of aluminum's beauty and its environmentally harmonious characteristics of being light-weight and rustproof
- 8. 8. Contributions to and ties with local communities.
- \*1 3Rs: Reduce, Reuse, Recycle
- \*2 The PRTR (Pollutant Release and Transfer Register) Law promotes improvement in the determination and control of amounts of designated chemical substances released into the environment.

# **UACJ Group Environmental Management Direction**

UACJ Group Fiscal 2016 Environmental Management Direction

### Fiscal 2016 UACJ Group Environmental Management Direction

Area	Objective
Elimination of environmental accidents	Zero accidents
Advancement of measures to fight global warming	Per-unit-production reduction of energy consumption
Building of a recycling-oriented society	Per-unit-production reduction of industrial waste volume
	Objective Continuation of zero emissions
Proper control of chemical substances	Per-unit-production reduction of PRTR-controlled VOCs

The environmental management direction for fiscal 2015 will be maintained for fiscal 2016.

# **Approach to Environmental Management**

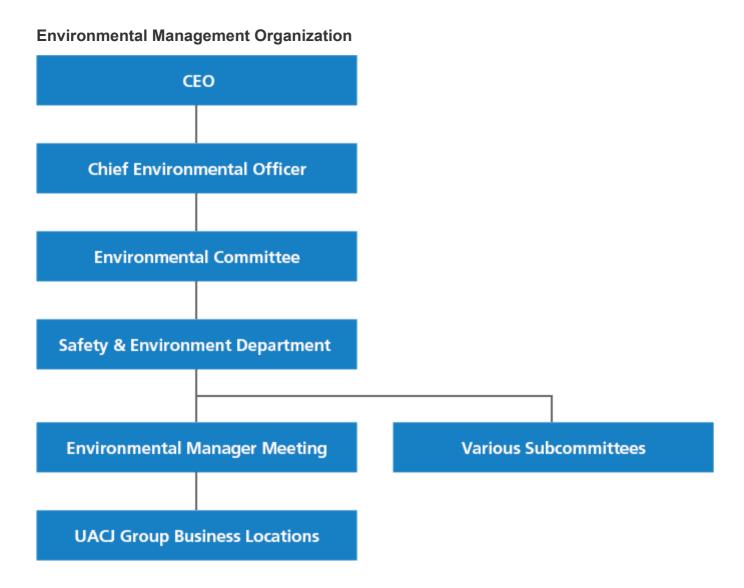
To advance environmental activities internally and raise the environmental awareness of employees, the UACJ Group has established the Environmental Committee as a body that represents the entirety of the Group.

The Environmental Committee, chaired by the Chief Environmental Officer, has a membership consisting of UACJ executives, plant managers, and presidents of principal Group companies. The committee meets once a year, in principle, to be updated on the status of environmental activities, and discuss aims and objectives for the following fiscal year's environmental activities.

To link environmental activity objectives with business activities and reliably work for their achievement, we have established the Safety & Environment Department as a unit responsible for implementation. The Safety & Environment Department holds meetings for Environmental Managers, conducts Executive Environmental Inspections, and organizes subcommittees on topics such as industrial waste and energy saving in performing the function of implementing and refining environmental activities.

### Environmental Manager Meetings

The Environmental Managers of UACJ's four main works, and principal extrusion, foil manufacturing, copper tube, and precision-machined components plants come together in meetings where they review progress in achieving the UACJ Group's environmental objectives, and share information on matters like changes in relevant laws.



### **Environmental Management System**

Environmental management systems are in place at each of the UACJ Group's business locations, and nearly all of our plants have obtained the ISO14001 certification. Some of our smaller business locations have obtained the Eco-Action 21 certification by following the guidelines formulated by Japan's Ministry of the Environment.

ISO standards are periodically reviewed and updated. The ISO14001 standard was updated last year with the issuance of the 2015 edition. Business locations that have obtained the ISO14001 certification have already begun to take the steps necessary to update their certifications under the revised standard. Exactly when this will be accomplished will differ depending on the circumstances at individual business locations. Plans, however, are for all certification updates to be completed by the September 14, 2018 deadline.

### ISO14001 Certifications (as of August 31, 2016)

Business Location	Certifying Institution	Certification Number	Date Obtained
Nagoya Works	JIC Quality Assurance Ltd. (JICQA)	E440	2002.4
Fukui Works	Det Norske Veritas (DNV)	00484-2002-AE-KOB-RvA	2002.4
Fukaya Works	Japan Standards Association	JSAE545	2002.7
Nikko Works	Det Norske Veritas (DNV)	1851-2002-AE-KOB- RvA/JAB	2002.3
UACJ Color Aluminum Corporation	Det Norske Veritas (DNV)	00789-2003-AE-KOB-RvA	2003.5
UACJ Extrusion Oyama Corporation	Det Norske Veritas (DNV)	00583-2002-AE-KOB-RvA	2002.9
UACJ Extrusion Nagoya Corporation, Nagoya Works , Anjo Works	JIC Quality Assurance Ltd. (JICQA)	E440	2002.4
UACJ Extrusion Shiga Corporation	Det Norske Veritas (DNV)	00583-2002-AE-KOB-RvA	2002.9
UACJ Extrusion Gunma Corporation	JIC Quality Assurance Ltd. (JICQA)	E773	2004.1
UACJ Foil Corporation, Shiga Works, Nogi Works	Det Norske Veritas (DNV)	1423-1999-AE-KOB-RvA	1999.1
UACJ Foil Corporation, Isezaki Plant	JIC Quality Assurance Ltd. (JICQA)	E771	2004.1

Business Location	Certifying Institution	Certification Number	Date Obtained
Nikkin Co., Ltd.	Det Norske Veritas (DNV)	20221-2008-AE-KOB-RvA	2008.2
UACJ Foundry & Forging Corporation	Det Norske Veritas (DNV)	00583-2002-AE-KOB-RvA	2002.9
HIGASHI NIHON TANZO CO., LTD.	Det Norske Veritas (DNV)	00583-2002-AE-KOB-RvA	2002.9
UACJ Copper Tube Corporation	JIC Quality Assurance Ltd. (JICQA)	E281	2001.5
Toyo Fitting Co., Ltd.	JIC Quality Assurance Ltd. (JICQA)	E1610	2006.3
UACJ Metal Components Corporation, Sendai Works, Osaka Works, Hiroshima Works	Japan Quality Assurance Organization	JQA-EM3314	2003.8
UACJ Metal Components Corporation, Ena Works	The High Pressure Gas Safety Institute of Japan	04ER-420	2004.3
UACJ Metal Components Corporation, Shiga Works	Japan Quality Assurance Organization	JQA-EM6018	2007.12
NALCO Koriyama Co., Ltd.	JIC Quality Assurance Ltd. (JICQA)	E1711	2007.2

## Eco-Action 21 (as of August 31, 2016)

Business Location	Certifying Institution	Certification Number	Date Obtained
UACJ Metal Components Corporation, Narita Works	Chibaken Kankyo Zaidan	0000341	2005.5

### Executive Environmental Inspections

Executive Environmental Inspections are carried out at Group business locations in Japan to prevent environmental problems, propose and advance implementation of measures for eliminating or mitigating risk, and ensure thorough compliance with environmental laws and regulations.

The inspection team, consisting of the Chief Environmental Officer and representatives from the Safety & Environment Department, visits business locations, receives reports on local environmental management, and checks local conditions in gathering information on matters such as legal and regulatory compliance, and the status of improvement activities. When matters requiring improvement are identified, the Safety & Environment Department provides guidance and support in taking the necessary corrective action. Through this approach, the quality of environmental management throughout the Group is being raised from the bottom up.

In fiscal 2015, Executive Environmental Inspections were conducted in each business area at a total of 26 business locations. Combined with inspections conducted in fiscal 2014, all business locations subject to Executive Environmental Inspections were inspected over that two-fiscal-year period.

### Status of Compliance with Environmental Laws and Regulations

On May 27, 2015, an accident, in which wastewater with a COD (chemical oxygen demand) of 195mg/L was released into a river, occurred at the Shiga Works of Nalco Iwai Co., Ltd. That concentration exceeded our own standard of 30mg/L and the legal standard of 160mg/L. The cause of the problem, however, was quickly identified and remedied, and the problematic release was kept to a minimum, with no detectable impact on the river.

### **Environment-Related Investment**

The UACJ Group's fiscal 2015 environment-related investments totaled approximately 1.0 billion yen. These funds were used for purposes such as reconstruction of wastewater treatment facilities (Nagoya Works), updating facilities related to an alumite line (Nalco Ena Co., Ltd.), and updating devices and converting to LED lighting to save energy (individual business locations).

### **Environmental Education**

We conduct environmental education for all employees as another measure for fulfilling our social responsibility to protect the global environment.

The Safety & Environment Department and the environment units of individual business locations lead environmental education initiatives. The Safety & Environment Department conducts fundamental environmental education activities, the purposes of which are to enlighten and raise awareness of environmental protection, and promote understanding of the UACJ Group's Basic Stance on the Environment. Meanwhile, the environment units of individual business locations carry out environmental education initiatives to foster the skills and numbers of internal auditors needed to ensure that each business location conducts its daily activities with sensitivity toward the environment.

We encourage employees to obtain public qualifications in environmental fields and are developing a workforce that is capable of appropriately responding to trends in environmental regulation. Individual business locations conduct general environmental education programs and special education programs for employees engaged in work that could have significant environmental impacts.

# Numbers of Employees with Environmental Management Qualifications (As of March 31, 2016)

Qualification	Qualified Employees
Pollution Control Manager - Air	38
Pollution Control Manager - Water	60
Pollution Control Manager - Noise	22
Pollution Control Manager - Vibration	25
Pollution Control Manager – Noise & Vibration	18
Pollution Control Manager – Dioxins	17
Energy Manager	60
Certified Environmental Measurer	4
Manager Responsible for Industrial Waste Requiring Special Controls	69
ISO1400 Internal Auditor	418

<sup>\*</sup> Data are for UACJ and Group companies in Japan.

### **Biodiversity Initiatives**

The UACJ Group views the protection of biodiversity as one of the most important global environmental challenges, and we treat it as such within the UACJ Group Code of Conduct. The UACJ Group procures raw metal, our primary raw material, mainly on the open market, and then processes it into metal materials that can then be used by our customers to make products. Our business model, therefore, does not have a significant direct impact on biodiversity. Nevertheless, we engage in actions such as those given below at individual business locations.

- Implementation of WET (Whole Effluent Toxicity) tests using bioresponse at UACJ Extrusion Oyama
   Corporation and UACJ Foundry & Forging Corporation
- Reduction of lumber usage in shipping materials at UACJ Extrusion Nagoya Corporation's Anjo Works and other locations
- Addition of greenery to individual business locations.

### Supply Chain

The UACJ Group's customer base includes a significant number of manufacturers who export products to destinations outside Japan. This is one reason why we are keenly aware of the importance of supply-chain management.

We take steps to ensure that the raw metals we use include no conflict mineral\*3. And we exercise stringent measures to comply with the European Union's REACH\*4 regulation and RoHS\*5 directive, and ensure that our products contain no controlled substances. Furthermore, we make a point of responding appropriately when customers request us to complete a green procurement survey.

- \*3 Conflict minerals are minerals subject to conflict mineral disclosure regulations under the US Dodd-Frank Act. These minerals include tin, tantalum, tungsten, and gold mined in the Democratic Republic of the Congo or neighboring countries.
- \*4 The EU's REACH regulation requires the "Registration, Evaluation, Authorization and Restriction of Chemicals."
- \*5 The EU's RoHS directive requires the "Restriction of Hazardous Substances" and was issued by the European Parliament and the European Council to restrict the use of certain hazardous substances in electrical and electronic devices.



# / Business Activities and Environmental Impacts

### **Fiscal 2015 Material Balance**

To support efforts to reduce industrial waste and substances of environmental concern, the UACJ Group works to accurately determine conditions with regard to the environmental impacts of its business activities. For fiscal 2015, data on substances of environmental concern and industrial waste were collected for the principal business locations, which comprise more than 95% of the UACJ Group's total energy usage.

#### Fiscal 2015 Material Balance

INPUT			
Energy	— <b>401,000</b> kℓ <sup>፠1</sup>		
Kerosene	6,000 kℓ		
Fuel oil A			
Fuel oil C			
Liquefied petroleum gas			
Liquefied natural gas			
City gas Electricity			
Electricity	189,000 KE		
Raw materials			
Al	771,000 t <sup>※2</sup>		
Cu	44,000 t <sup>※2</sup>		
Mn			
Mg			
Si	1,000 t		
Water	14,972,000 t		
Water for industrial use	11,035,000 t		
River water	3,668 t		
Groundwater			
Tap water	544,000 t		
PRTR substances			
	4,255 t		

OUTPUT			
Products			
Al			
Cu	44,000 t		
Atmosphere			
CO <sub>2</sub>	742,000 t-CO2 <sup>**3</sup>		
SOX	70 t		
NOX	759 t		
Soot and dust	59 t		
Waste			
Industrial waste	3,551 t <sup>**4</sup>		
Direct landfill waste	11 t		
Recycled materials	19,376 t		
Wastewater			
	12,522,000 t		
Chemical substances			
Releases	369 t		
Transfers	273 t		

Measurement Scope: 15 locations, including UACJ (Nagoya, Fukui, Fukaya, Nikko), UACJ Color Aluminum Corporation, UACJ Extrusion Nagoya Corporation (Nagoya, Anjo), UACJ Extrusion Oyama Corporation, UACJ Extrusion Shiga Corporation, UACJ Extrusion Gunma Corporation, UACJ Foil Corporation (Isezaki, Shiga, Nogi, ), UACJ Foundry & Forging Corporation, and UACJ Copper Tube Corporation

- ¾1 Crude oil equivalent
- X2 Total of new and recycled metal, scrap, ingots, etc. (Provisional figure as of August 24, 2016)
- 3 Based on an electric power generation CO<sub>2</sub> emissions factor of 0.378kg-CO<sub>2</sub>/kWh
- 34 The amount of industrial waste consigned to outside parties for processing, less the amount recycled.



# **Fighting Global Warming**

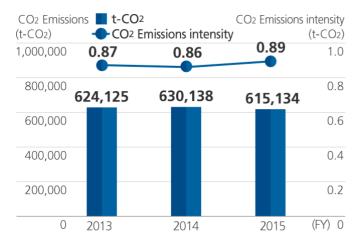
### **Basic Stance**

In light of the need to fight global warming, the pursuit of energy-saving activities is one of the UACJ Group's most important management concerns. Accordingly, we are steadily taking action on this front, focusing on what we can do in the present.

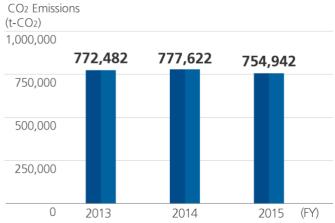
### Fiscal 2015 Results

In fiscal 2015, the third fiscal year following the merger that created UACJ, we moved forward with production optimization, in line with the Mid-term Management Plan. Production was streamlined by transferring the manufacturing of various products among our works, and this, together with a decline in domestic production volume, resulted in an overall year-on-year decline in energy usage. CO<sub>2</sub> emissions also declined on an overall basis, but rose per unit of production, compared to the previous fiscal year. (Assuming a fixed emissions factor for electric power.)

#### **UACJ CO2Emissions**



### **UACJ Group CO<sub>2</sub>Emissions**



- \*1 The CO<sub>2</sub> emissions factor is the one used for electricity generation, 0.378kg-CO<sub>2</sub>/kWh.
- \*2 Measurement Scope: UACJ (Nagoya, Fukui, Fukaya, Nikko), UACJ Color Aluminum Corporation, UACJ Extrusion Nagoya Corporation (Nagoya, Anjo), UACJ Extrusion Oyama Corporation, UACJ Extrusion Gunma Corporation, UACJ Extrusion Shiga Corporation, UACJ Foil Corporation (Isezaki,Shiga,Nogi), UACJ Foundry & Forging Corporation, UACJ Copper Tube Corporation
- \* Figures for fiscal 2013 are totals of the sums for the two UACJ predecessors for the first half (April 1 to September 30, 2013) and UACJ for the second half (October 1, 2013 to March 31, 2014).

### **Main Initiatives in Production Processes**

### Switching to LNG as a Heat Source for Production Processes

When heavy oil and LNG are used to generate equal amounts of heat, the amount of CO<sub>2</sub> emitted from the use of LNG is 30% lower than that from the use of heavy oil. UACJ, therefore, is systematically switching to LNG to provide heat for its production processes.

As of fiscal 2015, LNG (including city gas) accounted for approximately 76% of fuel usage at UACJ's four works, in terms of heat generated.

### Energy Saving Subcommittee

UACJ regularly holds Energy Saving Subcommittee Meetings. These meetings, which are joined mainly by facilities departments, have participants from multiple business locations. Information is shared among these various locations and all participants are informed of certain case examples in an effort to achieve significant improvements in energy saving.

### **Examples of Energy-Saving Activities**

The UACJ Group's principal energy-saving activities for fiscal 2015 are given in the table below. In addition, actions such as updating of chillers and air-conditioning systems, adoption of inverter technology for heating furnace fans, fixing of steam and air leaks, and reduction of energy usage by disengaging power and reducing heat losses during production line down periods were taken at business locations throughout the Group. As in fiscal 2013, the transition to LEDs for overhead lighting continued.

#### **Examples of CO<sub>2</sub> Emissions Reductions (New for fiscal 2015)**

Business Location	Theme	CO <sub>2</sub> Emissions Reduction Impact (t-CO <sub>2</sub> /yr.)
Fukui Works	Renewal of the catalyst for coating line deodorizing equipment	800
UACJ Foil Corporation Nogi Plant	Transition to high-efficiency boilers and updating of compressors	400
Common themes for all works	Adoption of LEDs for ceiling lights	300
Fukaya Works	Repairing of steam leaks	200
UACJ Foil Corporation Isezaki Plant	Reduction of boiler steam usage	200
UACJ Copper Tube Corporation	Optimization of cooling tower pump and fan operation	100

# Main Initiatives in Logistics

UACJ is working to save energy in its logistics processes. Considered a Specified Consignor <sup>(\*2)</sup> under the Energy Saving Law <sup>(\*1)</sup>, UACJ has established the goal of a 1% improvement in the 5-year average amount of energy used per ton-kilometer of shipments and is taking steps toward achieving it.

In fiscal 2015, lower production volume had a major impact resulting in a slight year-on-year increase in energy used per ton-kilometer of shipments.

In addition, since 2001, we or our predecessor companies have been engaged in joint logistics with business partners in the same industry for the transport of extruded aluminum products. These relationships have contributed to CO<sub>2</sub> reductions by making shipping more efficient.

Looking forward, we aim to achieve additional improvements to realize the benefits of the merger even in areas such as logistics rationalization.

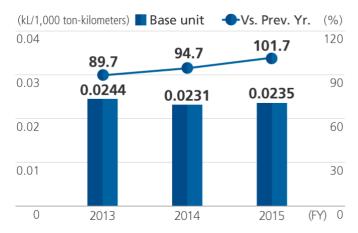
<sup>\*1</sup> Energy Saving Law: Under an ordinance established by the Ministry of Economy, Trade and Industry under the Act on the Rational Use of Energy, a consignor, who is in the position of requesting services from a freight carrier, is required to

develop an energy-saving plan, and work to reduce energy consumption.

\*2 Specified Consignor:

A consignor whose annual shipments of its own freight equals or exceeds 30 million ton-kilometers

# Amount of Energy Used for Shipping, per Unit of Sales



<sup>\*</sup> Figure submitted in regular reports

### **Main Initiatives in Offices**

### Energy-Saving Activities in Offices

UACJ's offices are actively working to cut electricity usage by implementing the Japanese government's "cool biz" and "super-cool biz" hot-weather measures, raising thermostats in the summer and lowering them in the winter, and systematically turning off lighting, electronic devices, and other electricity-consuming items when not in use.

### Office-Based Environmental Protection Measures

As environmental protection initiatives, individual UACJ offices separate waste into paper and plastic, and recyclables into newsprint, copy paper, magazines, and cardboard.

For office supplies, items complying with the Law Concerning the Promotion of Procurement of Eco-Friendly Goods and Services by the State and Other Entities and eco-mark items are purchased to the extent possible.

<sup>\*</sup> Figures for fiscal 2013 are totals of the sums for the two UACJ predecessors for the first half (April 1 to September 30, 2013) and UACJ for the second half (October 1, 2013 to March 31, 2014)



# **Chemical Substance Pollution Prevention**

### **Basic Stance**

The UACJ Group believes that, for both manufacturers and society, it would be ideal if products could be made without giving rise to any substances negatively impacting the environment, anywhere within the supply chain. Achieving that ideal, however, will not happen overnight; it is something that must be pursued on an ongoing basis and sets the direction for our constant efforts to prevent contamination by chemical substances.

### Fiscal 2015 Results

For discharges of environmental pollutants accompanying its production activities, the UACJ Group has set and abides by environmental (air and water) pollutant discharge standards that are stricter than those of Japan's Air Pollution Control Law, Water Pollution Control Law, local government ordinances, and conventions.

Regarding discharges into the air and water in fiscal 2015, a discharge of wastewater with a COD (chemical oxygen demand) exceeding our own standard and the legal standard occurred at the Shiga Works of Nalco Iwai Co., Ltd. (now UACJ Metal Components Corporation). Other than that incident, which was properly remedied, there were no other discharges into the air or water in excess of standards.

#### Pollutant Control at Individual UACJ Works (Fiscal 2015) o: Measurements fall within standards

	Measurement Item	Nagoya Works	Fukui Works	Fukaya Works	Nikko Works
Air	NOx, SOx, soot and dust	0	0	0	0
10/2422	pH、BOD	0	0	0	0
Water	n-H (mineral oil) 、SS	0	0	0	0

### **Control of PRTR Substances**

The UACJ Group, in accordance with the PRTR Law, identifies amounts of targeted substances handled, released, and transferred, and reports them as required. We also work to reduce these volumes.

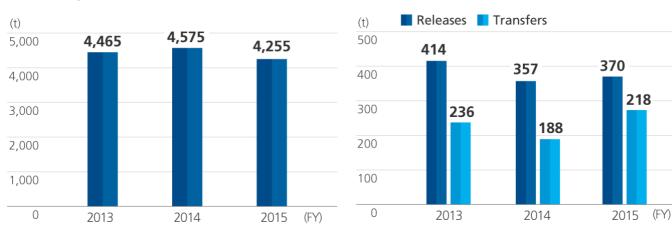
In fiscal 2015, the production volume of products using targeted substances increased, compared to the prior fiscal year. Overall releases of targeted substances, therefore, increased by 3.4% year on year. Nevertheless, with efforts to reduce usage of targeted substances, releases actually declined on a per-unit-production basis.

\* PRTR Law: Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

#### **Amounts of PRTR Substances Handled**

# (Contain manganese, chromium, nickel, and lead as alloy substances)

# **Amounts of PRTR Substances Released or Transferred**



\*Measurement Scope: UACJ (Nagoya, Fukui, Fukaya, Nikko), UACJ Color Aluminum Corporation, UACJ Extrusion Nagoya Corporation (Nagoya, Anjo), UACJ Extrusion Oyama Corporation, UACJ Extrusion Gunma Corporation, UACJ Extrusion Shiga Corporation, UACJ Foil Corporation (Isezaki, Shiga, Nogi), UACJ Foundry & Forging Corporation, UACJ Copper Tube Corporation.

\* Figures for fiscal 2013 are totals of the sums for the two UACJ predecessors for the first half (April 1 to September 30, 2013) and UACJ for the second half (October 1, 2013 to March 31, 2014).

### Handling, Releases, and Transfers of PRTR Substances (Fiscal 2015)

No.	Substance	Amount Used (kg)	Amount Released (kg)	Amount Transferred (kg)
412	Manganese and its inorganic compounds	2,515,736	0	16,720
300	Toluene	638,801	164,454	59,511

No.	Substance	Amount Used (kg)	Amount Released (kg)	Amount Transferred (kg)
80	Xylene	191,652	15,591	3,628
296	1,2,4-trimethyl benzene	189,487	71,146	29,545
87	Chromium and chromium(III) compounds	186,363	25	28,835
273	1-dodecanol	159,762	80,607	52,909
308	Nickel	82,700	0	0
53	Ethyl benzene	62,883	6,761	1,193
374	Hydrogen fluoride and its water- soluble salts	59,657	1,726	15,532
71	Ferric chlorides	55,625	0	0
297	1,3,5-trimethylbenzene	35,525	21,762	2,318
88	Hexavalent chromium and its compounds	27,848	0	0
438	Methylnaphthalene	9,953	50	0
302	Naphthalin	6,679	158	24
304	Lead	4,697	0	0
133	Ethylene glycol monoethyl ether acetate	3,977	59	8
407	Polyoxyethylene = alkylether	3,547	3,511	0
207	2,6-Di-tert-butyl-4-cresol	3,542	2,228	1,314
245	Thiourea	3,500	0	3,500
392	n-hexane	3,174	498	602
57	Ethylene glycol monoethyl ether	1,814	106	27

No.	Substance	Amount Used (kg)	Amount Released (kg)	Amount Transferred (kg)
134	Vinyl acetate	1,392	31	136
405	Boron and its compounds	1,192	573	590
321	Vanadium compounds	1,039	0	0
	Total	4,250,546	369,287	216,392

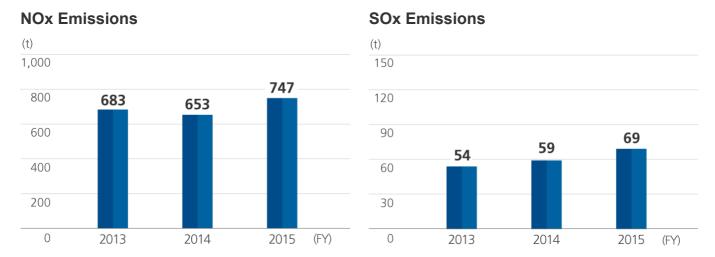
Measurement Scope: UACJ (Nagoya, Fukui, Fukaya, Nikko), UACJ Color Aluminum Corporation, UACJ Extrusion Nagoya Corporation (Nagoya, Anjo), UACJ Extrusion Oyama Corporation, UACJ Extrusion Gunma Corporation, UACJ Extrusion Shiga Corporation, UACJ Foil Corporation (Isezaki, Shiga, Nogi), UACJ Foundry & Forging Corporation, UACJ Copper Tube Corporation.

# Reducing VOC Releases

Having targeted for reduction substances such as toluene, xylene, ethyl benzene, and 1,3,5-trimethylbenzene, the UACJ Group is moving forward with initiatives for cutting releases of these VOCs (Volatile Organic Compounds) into the air. As one example, the cleaning solution we use for the finishing of sheet products is being replaced with one that has very low levels of the VOCs targeted for reduction.

### **Prevention of Air Pollution**

The UACJ Group is working to reduce its emissions of air pollutants by keeping plant facilities in top working condition and moving forward with conversion from heavy oil to LNG as a fuel. At present, our efforts are succeeding in keeping SOx and NOx emissions at low levels.



Measurement Scope: UACJ (Nagoya, Fukui, Fukaya, Nikko), UACJ Extrusion Oyama Corporation.

### Measures to Control Offensive Smells at the Nagoya Works

To control the offensive smells that arise from its hot-rolling process, the Nagoya Works upgraded equipment in its exhaust facilities in 2012 to improve odor control performance. Going forward, it will continue to take steps that are fully cognizant of the area environment to enable smooth production activities in coexistence with the local community.

### **Control of PCBs**

The UACJ Group, in accordance with the Law Concerning Special Measures Against PCB (Polychlorinated biphenyl) Waste, accounts for PCB-containing equipment for each of its plants, submits reports to supervisory authorities, and properly stores and manages these items. We also conduct surveys of fluorescent lamp ballasts and other small electrical devices and electrical devices suspected of containing small amounts of PCBs, and properly manage those exceeding standards.

<sup>\*</sup> Figures for fiscal 2013 are totals of the sums for the two UACJ predecessors for the first half (April 1 to September 30, 2013) and UACJ for the second half (October 1, 2013 to March 31, 2014).

We are steadily and properly rendering PCB-containing equipment harmless by commissioning the Japan Environmental Safety Corporation to perform this work. And, based on the judgment that stable processing of small amounts of PCB-contaminated oil is also now possible following an increase in the number of certified processors, we also have this work performed by an outside service provider when necessary.

### Addressing the Problem of Asbestos

The UACJ Group has carried out a study of its historical and current usage of asbestos in products, plant buildings, equipment and fixtures. At present, we are not using asbestos in products and have never sold products containing asbestos.

As for our plant buildings, to a very limited extent, we have used spray-on asbestos, which entails a high risk of dispersion into the air, and have been working to remove it since fiscal 2004. At the present time, we have identified spray-on asbestos at the Fukaya Works, UACJ Foil Corporation's Nogi Plant, and at UACJ Copper Tube Corporation, and will proceed to systematically remove it.

Regarding equipment and fixtures, we have already completed the replacement of items for which there was a risk of asbestos dispersion. Equipment and fixtures with a small risk of asbestos dispersion are being replaced when regular inspections are due and on other occasions, as well.

### **Measures to Control Dioxins**

For its aluminum melting furnaces that qualify as designated dioxin-emitting facilities under the Law concerning Special Measures against Dioxins, the UACJ Group has implemented management that lowers dioxin concentrations in exhaust gases to levels below the regulatory standard.

More specifically, we prevent the development of dioxins by strictly managing the volume of combustion air for the subject aluminum melting furnaces and closely controlling the materials put into them.

In addition, we annually measure levels of dioxins for subject aluminum melting furnaces, as required by law, and report results to the government. All of our measurements of dioxins for fiscal 2014 came in below regulatory standards for the 24 facilities covered by air pollution regulations and the 2 facilities covered by water pollution regulations.

### **Prevention of Water Pollution**

With the partial revision of the Water Pollution Prevention Act, promulgated in June 2012, reporting of information on storage facilities, piping, etc. used for harmful substances and compliance with standards set for structures became mandatory.

At the UACJ Group, all necessary reports were prepared at individual business locations by the May 31, 2015 end of the deferment period.

## **Prevention of Soil and Groundwater Contamination**

UACJ Extrusion Oyama Corporation and UACJ Color Aluminum Corporation, as responses to past incidents of soil and groundwater contamination, have implemented continuous purification of contaminated groundwater, and periodically take measurements of contaminants, to confirm effectiveness. At present, purification measures are working and steadily lowering contamination levels.

### Measures to Deal with Soil and Groundwater Contamination

Business Location	Period	Contaminant	Response
UACJ Extrusion Oyama Corporation	Since fiscal 1999	Tetrachloroethylene	Soil replacement, water extraction and purification
UACJ Color Aluminum Corporation	Since fiscal 2004	hexavalent chromium, fluorine	Soil replacement, water extraction and purification

For information on the management of chemical substances included in products, please refer to the section titled, "Environmental Consideration in Products."



# Resource Conservation and Waste Reduction

## **Basic Approach**

The recoverable reserves of aluminum, the primary raw material used by the UACJ Group, are in greater abundance, and will be recoverable for a longer period, than those of other metals. Nevertheless, as a beneficiary of a limited metal resource, we have a duty to conserve resources, reduce waste, and ensure availability for future generations.

The UACJ Group believes that advancing recycling and reuse is critical and is actively working in support of closed recycling\* of aluminum cans and printing plates, as an addition to standard recycling practices. At the same time, we are advancing waste reduction initiatives and the effective use of limited resources. In pursuit of our environmental objective of realizing a recycling-oriented society, we will work continuously to reduce our generation of industrial waste per unit of production and achieve zero emissions.

\* Closed recycling is the recycling of aluminum used in a specific type of product into raw material to produce the same type of product.

### Fiscal 2015 Results

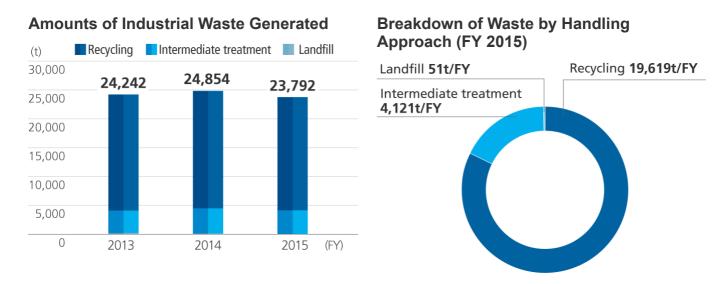
The UACJ Group is moving forward with efforts to reduce industrial waste and pursuing activities aimed at achieving zero emissions.

At the UACJ Group, "zero emissions" means that direct landfill waste comprises less than 1% of all industrial waste generated. For fiscal 2015, we achieved zero emissions with a direct landfill waste ratio of 0.22%. Going forward, we will work to maintain zero emissions by separating industrial waste and recycling.

In fiscal 2015, the total amount of industrial waste generated at our principal business locations fell by 4.3% compared to the prior fiscal year. This result is attributed to an increase in production volume. Going forward, we will redouble our efforts to reduce industrial waste, recycle, and turn waste into substances of value.

### Industrial Waste Subcommittee

At UACJ, the Industrial Waste Subcommittee has been established mainly with representatives of business locations generating significant amounts of industrial waste. The subcommittee meets regularly to promote reductions and proper processing of industrial waste by establishing a common understanding of separation and processing information, and by examining and promoting improvements in separation practices, and establishing a common understanding of reduction measures, at individual business locations.



Measurement Scope: UACJ Group business locations in Japan

### Waste Amounts by Type and Main Post-Recycling Application (FY 2015)

Waste Type	Amount Generated (t)	Recycling Rate (%)	Main Post-Recycling Application
Sludge	10450	87	Raw material for cement
Waste oil	3458	90	Fuel
Wood waste	2482	94	Fuel, fertilizer
Slag	1655	100	Roadbed material
Waste plastic	1416	31	Fuel

<sup>\*</sup> Figures for fiscal 2013 are totals of the sums for the two UACJ predecessors for the first half (April 1 to September 30, 2013) and UACJ for the second half (October 1, 2013 to March 31, 2014).

#### **Industrial Waste Reduction Examples (Fiscal 2015 Activities)**

Business Location	Theme	reduction (t/yr.)
Nagoya Works	Reduction of sludge generation through an improved processing method	105
Fukui Works	Recycling of waste alumina	47
UACJ Extrusion Nagoya Corporation, Nagoya Works	Reduction of washing iterations by adding a dispersing agent to the die washing apparatus	12
	Promotion of reuse of wooden pallets and skids	
	Recycling of waste oil and waste ink	
Multiple business locations	Recycling of metal waste	-
	Recycling of wastepaper	
	Implement a purchase and recycling program for waste plastic	

# Promoting Recycling of Aluminum Cans

Aluminum is light-weight, does not rust, conveys heat well, and is highly recyclable\*1. Given the outstanding qualities of the metal from which they are made, aluminum cans – with the help of the public - are recycled at a rate\*2 of 90% (fiscal 2015). The UACJ Group, as a leading producer of aluminum products, supports aluminum can recycling as an activity beneficial for the formation of a recycling-oriented society. We do this through activities such as collecting (purchasing) aluminum cans at our works to participate in local recycling activities, and using recycled aluminum.

- \*1 Recycling aluminum requires only about 3% of the amount of energy needed to produce new aluminum from bauxite.
- \*2 Aluminum cans collected and recycled in Japan (including for export purposes) as a percent of all aluminum cans purchased by consumers in Japan.

## Effective Use of Water Resources

With 70% of its surface covered by water, the earth is sometimes referred to as the "blue planet." But nearly all of the earth's water, 97.5%, is salt water and only 2.5%, freshwater. Moreover, water that is easily

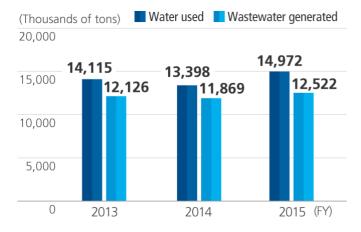
used by humans – the surface water in rivers and lakes - accounts for only 0.4% of freshwater, and only 0.01% of the total amount of water on the earth.

From a global perspective, this precious freshwater is said to be recyclable. At the local level, however, uneven distribution means there are already countries and regions facing pressing problems due to the risk of water shortages.

Well aware of global conditions concerning water, the UACJ Group pursues effective water resource usage and management. Each of our business locations tracks its water usage by water source, manages wastewater discharges by the waterway into which the discharges are made, and includes this information in material balance charts organized by business activity and environmental burden.

Furthermore, the UACJ Group has confirmed that none of its business facilities using large amounts of water are located in areas where the risk of water shortage is high.

### Volumes of Water Used and Wastewater Generated



<sup>\*</sup> Figures for fiscal 2013 are totals of the sums for the two UACJ predecessors for the first half (April 1 to September 30, 2013) and UACJ for the second half (October 1, 2013 to March 31, 2014).

### Reducing Wood Usage to Protect Forests

Considering that deforestation plays a major role in ecosystem destruction, the UACJ Group is helping to protect forests by reducing our usage of wood. The Nagoya Works, for example, is shifting to steel pallets, and away from wooden pallets, for the shipment of aluminum can products in Japan. Meanwhile, UACJ Copper Tube Corporation has ceased using wooden pallets, in favor of cardboard pallets, for shipping intermediate products to overseas subsidiaries.



# / Environmental Consideration in Products

# **Improvement Objectives**

The UACJ Group, is contributing to the realization of a low-carbon, recycling-oriented society by working to improve the performance of aluminum materials.

To illustrate, when we develop, and a customer in the business of manufacturing transportation equipment adopts, an aluminum material that offers the same performance as previous materials but with less weight, we have contributed to improved fuel economy and, thereby, a reduction in carbon emissions.

The UACJ Group, in response to customers' desires, is developing or improving products in ways that emphasize environmental considerations.

Product Development and Improvement	Contributions that Benefit the Environment and Society	
Development and application of aluminum can materials with outstanding recyclability	Making lighter-weight cans that save resources and reduce costs	
Development and application of high-performance heat exchanger tubes	Improving performance of heat exchangers to reduce equipment sizes and save resources	
Development and improvement of aluminum materials for car air conditioners compatible with the European requirement to use CO2 as a refrigerant	Making lighter-weight vehicle bodies that save resources and improve fuel economy Fighting global warming by adopting CO2 as a refrigerant	
Development and improvement of aluminum materials for hybrid automobiles	Making lighter-weight vehicle bodies that save resources and improve fuel economy	

Two-thirds of the materials used to make aluminum cans in Japan (in fiscal 2015, 22.2 billion cans weighing approximately 330,000 tons) are made by UACJ. As the top manufacturer, we believe it is our responsibility to promote the recycling of aluminum cans, and we do so actively.

Furthermore, we are rationalizing our use of packing materials for the delivery of products, and recovering and reusing them in conjunction with our rationalization of our logistics.

### **Control of Chemical Substances included in Products**

The UACJ Group is strict in its exercise of proper controls over designated chemical substances included in products. In response to changes in domestic and overseas environmental laws (e.g. The addition of the EU's REACH\*1 regulation), we revise our chemical substance management standards and common procurement documentation, and take other necessary steps.

We also devote significant effort to the registration of SDSs (Safety Data Sheets\*2) and to the improvement of our browsing cabinet.

- \*1 REACH regulation: Registration, Evaluation, Authorization and Restriction of CHemicals
- \*2 SDS: Safety Data Sheet: Products containing chemical substances designated by the Poisonous and Deleterious Substances Control Act, Industrial Safety and Health Law, and the Pollutant Release and Transfer Register Law at percentages greater than specified in these laws must be accompanied by a Safety Data Sheet with the required information when they are transferred or provided from one commercial party to another.

### REACH Regulation Initiatives

The UACJ Group, though it is not required to be registered under the REACH regulation, examines all of its products to determine whether they include an SVHC (Substance of Very High Concern) specified in the REACH regulation and informs customers of any products that do.

If substances are newly designated as SVHCs, and we determine that they are included in our products, we will swiftly provide customers with the relevant information.

# **Environmental Quality Management System Certifications by Customers**

At its business locations required to have specified supplier certifications, the UACJ Group emphasizes the practice of chemical substance management that satisfies customer standards, and undergoes environmental quality management system certifications<sup>\*1</sup> by customers. Going forward, we will continue to practice management that enables proper responses to customer demands.

\*1 Sony Corporation's Green Partner and Nippon Chemi-Con Corporation's Green Supplier certifications, among others

### Communicating Information on Chemical Substances in Products

Raw material manufacturers provide UACJ with information on the chemical substance content of their products, and UACJ has established a management system that allows it to properly communicate this information to its own customers.

Information on chemical substances is provided, with the cooperation of the Quality Assurance and Environmental Management departments, in the form of an SDS (Safety Data Sheet), a JAMP (Joint Article Management Promotion consortium) AIS (Article Information Sheet), JAMA (Japan Automobile Manufacturers Association) JAMA Sheet, or via any number of other industry-specific formats, depending on the customer request. Following the revision of the JIS (Japan Industrial Standards), we revised the SDSs issued by UACJ to provide GHS-compliant (Globally Harmonized System of Classification and Labeling of Chemicals) content.

In addition, when necessary, we conduct emission spectrochemical, ICP (Inductively Coupled Plasma) mass spectrometry, and fluorescent X-ray analyses and inspections that can detect minute amounts of substances in products, and issue customer requested certifications that certain substances have not been used in production or are not contained in a product.

### Conversion to Low-Environmental-Impact Raw Materials

The UACJ Group is striving to use low-environmental-impact raw materials. For the raw materials that, as in the case of free-cutting alloys, include lead or other metallic elements that are covered by EU directives, we are working with customers to switch to materials that do not include controlled substances. Moving forward, we will continue to switch to low-environmental-impact raw materials to meet customer needs.

We have also taken action regarding cleaning solutions for the finishing of sheet and extruded products. In the past, we used chlorine-based organic solvents, which are designated substances under the PRTR Law. However, given multiple instances of groundwater contamination with these substances across Japan, we ceased using chlorine-based organic solvents in the final cleaning processes at all of our business locations.

The paints used on aluminum can materials and colored aluminum are another area in which we are taking action. Oil-based products had been the most commonly used paints for these products, but have now been largely replaced with water-based paints, which are said to have low environmental impact. The UACJ Group is promoting the use of water-based paints by recommending them to customers and working with customers to test their use.