

# Environmental Activities

The KOITO Group declares in the KOITO Group Corporate Behavior Charter, our basic policy of the corporate activities, that "guided by the theme of 'Eco-friendly Manufacturing for People and the Earth,' we will proactively engage in global environment conservation through our business activities."

Based on this policy, KOITO has established an Environmental Policy that sets out the framework for its environmental activities and implements that policy in the environmental management of all fields: development, design, production, procurement, logistics and others.

Moreover, our domestic and overseas subsidiaries also have established "Environmental Policy" as well as built environmental management systems. We are promoting environmental conservation activities throughout the KOITO Group.

## Environmental Policy

KOITO MANUFACTURING CO., LTD. pursues "Eco-friendly Manufacturing for People and the Earth" in all business activities centered on automotive lighting by promoting environmental conservation activities;

1. To clarify our targets and measures for environmental conservation and continuously work to improve the KOITO Group's environmental performance,
2. To formulate and promote environmental improvement plans by considering environmental issues in advance in addition to complying with environmental laws and regulations,
3. To strive to develop and establish new environmentally friendly technologies and products throughout the product life cycle,
4. To minimize the environmental impact and use of resources and energy in the manufacturing process, promote environmental protection activities and prevent environmental problems from occurring,
5. To actively promote human resources development to achieve our environmental targets.

## Management Structure for Environmental Activities

KOITO convenes the monthly Safe and Environmental Committee chaired by the Director to supervise environmental activities of the entire Group and to discuss and make decisions on important environmental issues and environmental conservation measures to be implemented under environmental laws and regulations.

Subcommittees and working groups, such as the Energy and CO<sub>2</sub> Reduction Subcommittee, Environmental Impact Substance Reduction Working Group, and Recycle Promotion Working Group, which were established to address specific environmental issues, are implementing specific activities.

These activities are reported to the Safe and Environmental Committee, which follows up on progress and discussing various actions.



## Establishment of Environmental Management System

The KOITO Group is building the environmental management system for the entire Group. We are working to acquire ISO 14001 and other environmental certificates primarily at our manufacturing sites. As of the end of March 2021, a total of 23 companies out of 25 eligible for certification have acquired environmental certificates: 12 in Japan, including KOITO MANUFACTURING, and 11 overseas.

The KOITO Group also recommends major suppliers to acquire certificates, such as ISO 14001 and Eco-Action 21, in order to reinforce environmental management and conservation throughout the entire supply chain.

### KOITO's ISO 14001 certification in production sites

Site	Year-month of initial registration	The latest renewal date
Shizuoka Plant	January 2000	January 2021
Koito Parts Center		
Haiabara Plant		
Sagara Plant		
Fujikawa Tooling Plant		
	January 2003	

Scope of Environmental Management: KOITO's environmental management is applied to the above five sites with respect to business activities related to the R&D, design, production, logistics, etc. of automotive lighting equipment, aircraft components and others. In addition, environmental impact arising from the product life cycle are also applied to the management.

### Environmental certification acquired in the KOITO Group

Domestic subsidiaries		Overseas subsidiaries	
ISO 14001	KOITO KYUSHU	ISO 14001	North American Lighting (U.S.A.)
	Aoitec		North American Lighting Mexico (Mexico)
	Shizuokadense		Koito Europe (U.K.)
	Nissei Industries		Koito Czech (Czech Republic)
	Fujieda Auto Lighting		GUANGZHOU KOITO (China)
	Shizuoka Wire Harness		Hubei Koito (China)
Eco-Action 21	KOITO ELECTRIC INDUSTRIES		FUZHOU KOITO TAYIH (China)
	Haibara Machine and Tools		THAI KOITO (Thailand)
	Shizuoka Kanagata		INDONESIA KOITO (Indonesia)
Green Management Certificate	Takeda Suntech		Ta Yih Industrial (Taiwan)
	Koito Transport		INDIA JAPAN LIGHTING (India)

## Environmental Targets and Performance

The KOITO Group has set quantitative targets for each index to implement "Eco-friendly Manufacturing for People and the Earth." We set the quantitative goal for various indicators in order to implement activities effectively. The Safe and Environmental Committee and others are supervising the progress of environmental conservation activities and evaluating the status of the achievement.

KOITO is working to achieve the midterm target (midterm priorities) that started in FY 2017 and completed in FY 2021, and is engaging in various activities to achieve short-term goals, which are designed to check the status of achievement each year.

### Environmental management plans and results

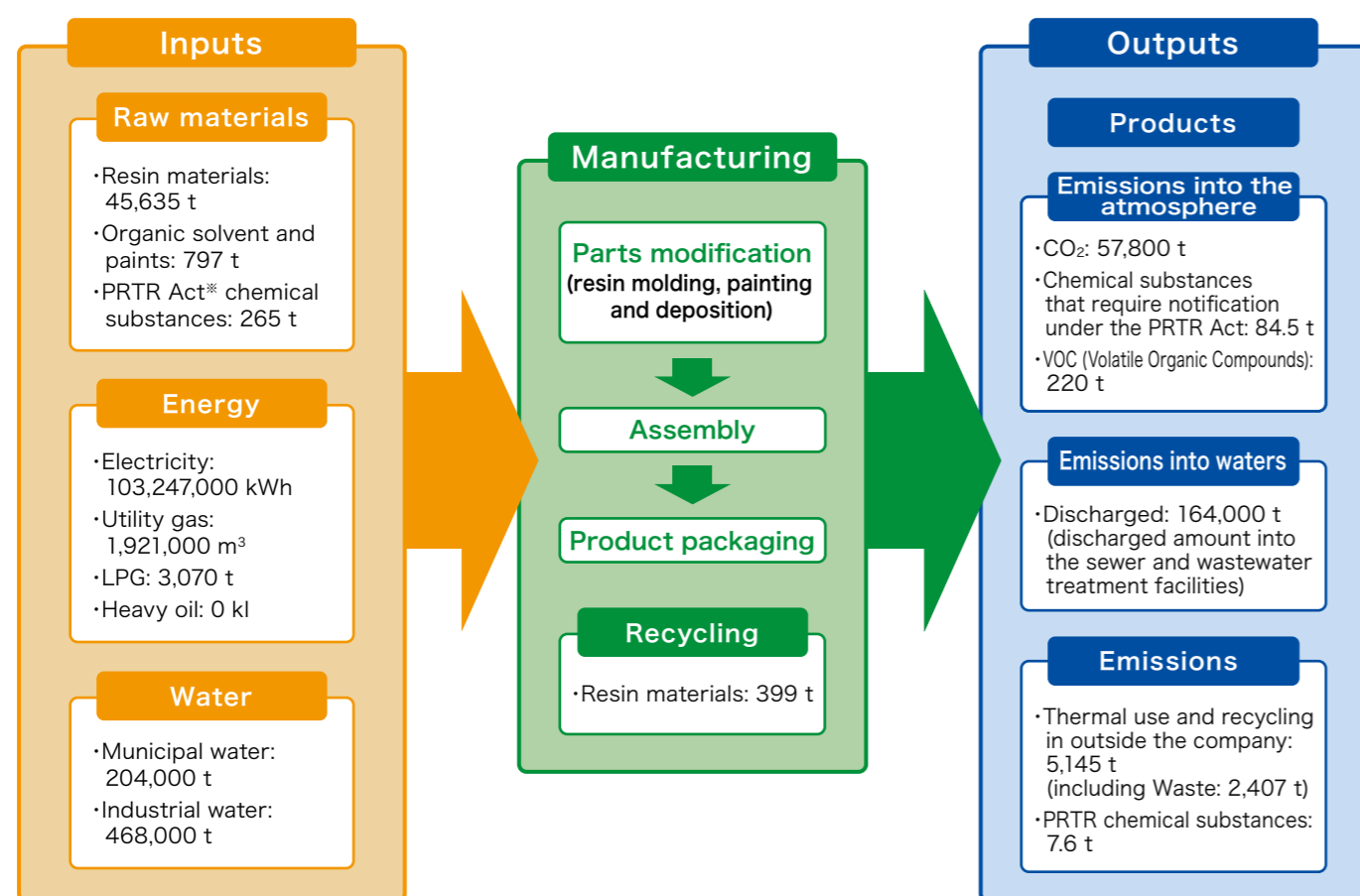
Environmental objectives	Priority efforts and performance in FY 2021			Main approaches from FY 2017 to FY 2021	
	Priority	Target	Result		
Measures to alleviate climate change	Contribution to low-carbon society	Reduction of CO <sub>2</sub> from production	CO <sub>2</sub> emission intensity: 13% reduction from FY 2016 (amount of CO <sub>2</sub> emissions: 62,900 t-CO <sub>2</sub> )	17% reduction from FY 2016 (amount of CO <sub>2</sub> emissions 57,800 t-CO <sub>2</sub> )	①Reduction of energy use and CO <sub>2</sub> emissions in production activities - CO <sub>2</sub> intensity in FY 2021: 13% reduction from FY 2016 ②Reduction of energy use and CO <sub>2</sub> emissions in logistics - Energy usage per unit: 1% reduction per year ③Reduction of environmental impact substances in the product life cycle
		Reduction of CO <sub>2</sub> from logistics	Energy usage per unit: 1% reduction per year	9% reduction from FY 2016	
Resource and water circulation	Development of recycle-oriented society	Reduction of the amount of waste	Waste generated per unit: 18% reduction from FY 2016	31% reduction from FY 2016	①Development of recycle-oriented society - Reduction of waters and effective utilization of resources in production Waste generated per unit in FY 2021: 18% reduction from FY 2016 ②Minimization of water impact - Reduction of water consumption Water usage per unit in FY 2021: 3% reduction from FY 2016 - Improvement of wastewater quality management
		Reduction of water consumption	Water usage per unit: 9% reduction from FY 2016	27% reduction from FY 2016	
Management and reduction of chemical substances	Reduction of environmental impact substances	Reduction of VOC emissions	VOC emissions: Less than the amount in FY 2016 (315 t) Target for FY 2021: 250 tons or less	220 t (30% reduction from FY 2016)	①Reduction of environmental impact substances in production activities - Amount of VOC emissions: Maintain the amount below FY 2011 ②Thorough management of environmental impact substances in products
Enrichment of environmental management	Reinforcement of global environmental activities	Promotion of the reinforcement of consolidated environment activities	Reinforcement of environmental risk management Thorough environment compliance	Identification of potential risks and reinforcement of preventive measures (Identification of and response to near miss incidents)	①Reinforcement of the worldwide environmental management - Promotion of the reinforcement of consolidated management - Promotion of environmental activities with business partners (suppliers) - Proactive disclosure of environmental information and enrichment of communication - Reinforcement of environmental education ②Development of society in harmony with nature - Promotion of biodiversity and nature conservation activities
		Promotion of environmental efforts collaborating with suppliers	Promotion of aggressive environmental activities, improvement of environmental performance	Confirmation of management status and promotion of improvement through information sharing and on-site inspections	
		Disclosure of environmental information and enhancement of communication	Global disclosure of environmental information Promotion of mutual understanding with local communities	Disclosure of consolidated information Hosting round-table session with local communities	
Enrichment of society in harmony with nature	Development of society in harmony with nature	Reinforcement of environmental education	Promoting compliance, employee education and awareness-raising activities	Reevaluation of education structure for manager, supervisor and newly hired employees Implementing training for contractors (construction workers etc.) working in the premises	
		Promotion of biodiversity and nature conservation activities	Promotion of activities at individual offices and regions Promotion of biodiversity conservation activities	Cooperation with local organizations and participation in activities with them Reinforcement of activities to prevent global warming and effectively use resources	

## Material Balance

Energy and resource inputs and emissions (outputs) of greenhouse gas (GHG) and environmental impact substances such as VOC (Volatile Organic Compounds) in KOITO's business activities are as follows.

KOITO keeps track of the material balance in its business activities to verify and evaluate activities to reduce the environmental load and to use the data for the establishment of future measures.

### Results (FY 2021)



\*PRTR Act: Act to promote identification and management of specific chemical substances' released amount to the exterior environment.

## Environmental Audits

KOITO conducts annual external environmental audits and internal environmental audits to check the operational status of the environmental management system. Improvement proposals are prepared and implemented to respond to the aspects identified through those audits to maintain and operate the proper management system.

### External Environmental Audits

A registered external accreditation firm checks whether the environmental management system has been properly established and operated based on ISO 14001.

### Internal Environmental Audits

To ensure the independence of internal environmental audits, an audit team composed of internal auditors other than the department being audited is organized, and audits are conducted based on ISO 14001. The internal auditors are also conducting audits at their departments for continuous improvements and enhance environmental awareness.

## Environmental Education

KOITO has established an education system and periodically provides environmental education to promote training for human resources to achieve our environmental targets as stated in the Environmental Policy and help every employee gain a deep understanding of the environment.

In addition to education for specific job ranks, such as new employees, managers, and supervisors, KOITO provides special education for internal auditors and promote our employees' acquisition of official licenses and qualifications. Meanwhile, June and July of every year are designated as KOITO Environmental Months during which employees participate in local clean-up activities and practice intensive environmental inspection to enhance the awareness of every employee.

KOITO provides education on preventing contamination and spillage to workers on the premises of KOITO, such as contractors, to enhance their awareness and prevent environmental accidents.



Safety and environmental education for the work conducted within the premises (2019)



Education for internal environmental auditors (2019)

## Efforts throughout Supply Chain

KOITO is committed to promote measures to reduce environmental load based on the comprehensive perspective of the product life cycle to coexist with global environment and local communities and to engage in environmental activities through all business activities, including procurement, development, production, and sales.

Aiming to materialize a sustainable society, KOITO is working to strengthen supply chain management. We hold annual procurement policy briefing session and monthly information liaison meetings for suppliers to encourage them to acquire environmental certifications, such as ISO 14001 and Eco-Action 21, and request compliance with environmental laws and regulations on environmentally hazardous substances.

In FY 2021, KOITO held a supplier meeting on May 29, 2020, and 199 suppliers attended it.



Procurement policy briefing session (2019)

## Compliance with Environmental Laws and Regulations

KOITO conducts thorough risk management, such as specifying the sources of environmental risks, detecting abnormalities in the early stages through regular measurements, and establishing emergency response measures to minimize environmental risks by complying with environmental laws and regulations, such as ones to prevent air pollution, water contamination and soil contamination.

Through these risk management activities, KOITO makes sure that emissions, water quality, noise, soil and groundwater contamination are within the ranges permitted under laws, regulations and standards. In FY 2021, neither violations of environmental laws and regulations nor fines were reported at the KOITO Group.

The KOITO Group is committed to compliance with environmental laws and regulations, and continue to work on environmental risk management.

Environmental risk management to comply with environmental laws and regulations

Risk management		Procedures
Risk avoidance and removal	Prevention of environmental pollution	<ul style="list-style-type: none"> <li>Identification of sources</li> <li>Source management</li> </ul>
	Early detection of abnormality	<ul style="list-style-type: none"> <li>Setting self-management standards</li> <li>Daily inspection (monitoring and measurement)</li> </ul>
Prevention of expanding risks	Emergency response	<ul style="list-style-type: none"> <li>Setting emergency response procedures</li> <li>Implementation of training to handle abnormality</li> </ul>

# Reduction of Greenhouse Gas Emissions

Aiming to contribute to materialize a decarbonized society and achieve carbon neutrality, KOITO is promoting products' power conservation, size reduction, and weight reduction from the development and design phase and improving fuel efficiency in automobiles and reducing CO<sub>2</sub> emissions. KOITO has set quantitative reduction targets for midterm priority activities in the production and logistics phase to promote energy conservation and to reduce CO<sub>2</sub> emissions.

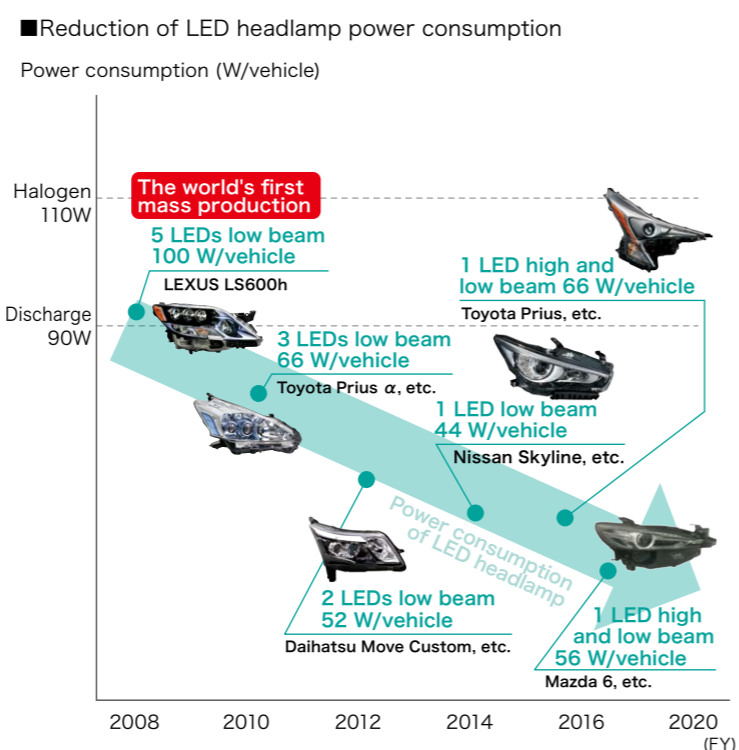
## Efforts through Products

### LED Headlamps

KOITO started using LEDs as the light source for headlamps before other companies to improve the fuel efficiency of automobiles and to reduce CO<sub>2</sub> emissions by reducing power consumption of the lamps. The LED headlamps consume about 40% less electricity than discharge headlamps and contribute to reduce battery load.

The adoption of LED headlamps has expanded to various vehicles, from large-size vehicles, compact vehicles, mini vehicles, and to motorcycles. In FY 2021, global LED adoption ratio among the KOITO Group's headlamps was approximately 64%, and is expected to widespread further.

We are now developing energy efficient lamps by improving the performance of the white LED lamps as well as reducing the size and weight.

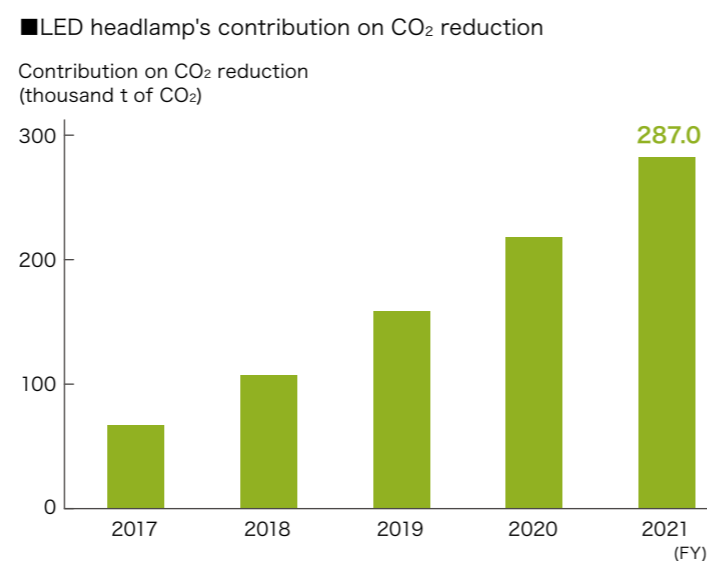


### LED Headlamp's Contribution on CO<sub>2</sub> Reduction

The KOITO Group is contributing to improve vehicle fuel efficiency and reduce CO<sub>2</sub> emissions by providing LED headlamps.

KOITO has evaluated our global environmental contribution of LED headlamps by comparing the amount of CO<sub>2</sub> emissions when using conventional halogen headlamps.

Contributions are increasing year by year due to the spread of LED headlamps and the evolution of light sources.



\*KOITO has calculated the contribution by referring to the calculation methodologies on the EU's "Technical Guidelines for the preparation of applications for the approval of innovative technologies pursuant to Regulation (EC) No 443/2009 and Regulation (EU) No 510/2011" and JAPIA's "Second Version of Regulation 2 of the Guidelines for Calculating LCI (Data Chart for Calculating Environmental Impact at the Stage of Use)."

[Calculation formula]  
 Energy-saving effect\* (W/units) / 1,000 × Consumption of effective power (ℓ/kWh) / Efficiency of alternator × CO<sub>2</sub> emission factor (t-CO<sub>2</sub>/ℓ) × Operating hours (hours/year) × Usage factor × the number of vehicles equipped with the KOITO Group's LED headlamps  
 ※Power consumption differences between LED headlamps and halogen headlamps

### LED Rear Combination Lamps

KOITO has conventionally used incandescent light bulbs to rear combination lamps. However, as LED achieves smaller, lighter, more energy efficient, and longer life lamps, and it contributes to the improvement of the fuel efficiency and CO<sub>2</sub> emissions reductions of vehicles, LED rear combination lamps are also being adopted in various vehicles as in the case of LED headlamps.

### Development of Smaller and Lighter Components

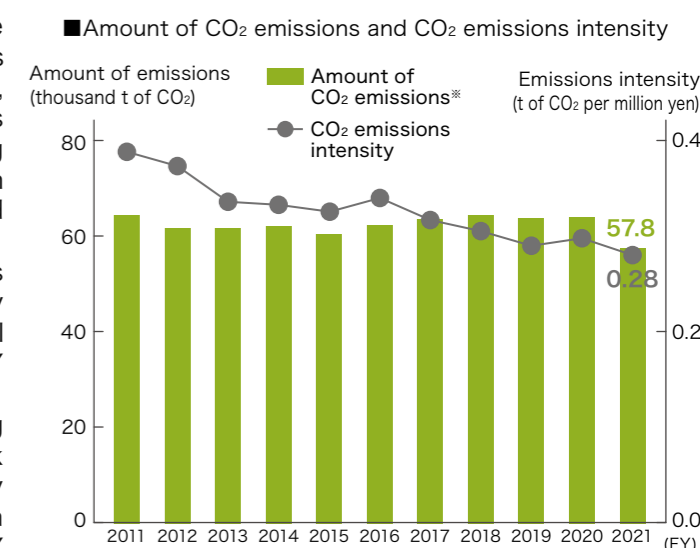
Through our collaboration between relevant divisions, development, design, production and procurement, KOITO is working to minimize and reduce the weight of our products by reducing the number of components and resinification to contribute to improve the fuel efficiency of automobiles.

## Efforts in the Production Process

To improve energy and production efficiency in the production process, KOITO is reducing CO<sub>2</sub> emissions by improving work methods and updating facilities, such as updating to higher-efficiency transformers and gas heat pump (GHP) air conditioners, installing energy-efficient facilities, automatic power shutdown systems to kick in when facilities are not in use, and optimizing production lines.

KOITO has set a target of reducing CO<sub>2</sub> emissions (CO<sub>2</sub> emissions intensity) per production monetary amount (million yen) by 13% by FY 2021 from the level of FY 2016 in the five-year plan from FY 2017 to FY 2021.

Factories in Japan were streamlined by integrating production lines and conducting improvement work that resulted in improved productivity and energy efficiency. With this effort, KOITO has succeeded in achieving the goal; intensity of CO<sub>2</sub> emissions in FY 2021 decreased by 17% from FY 2016.



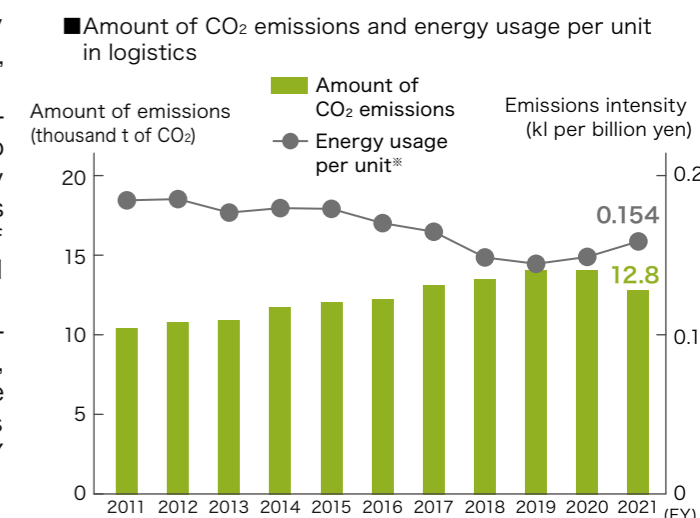
※The amount of CO<sub>2</sub> emissions from Shizuoka, Haibara and Sagara plant are calculated by using the CO<sub>2</sub> emissions coefficient in FY 2008 at the receiving end released by the Federation of Electric Power Companies for electricity and the coefficients used in the Act on Rationalizing Energy Use and the Act on Promotion of Global Warming Countermeasures for city gas, LPG, and heavy oil.

## Efforts in Logistics

The logistics of KOITO are mainly conducted by freight trucks. A domestic subsidiary, Koito Transport, is mainly carrying out the logistics operations.

Koito Transport acquired the Green Business Certificate in February 2004. Collaborating with KOITO, Koito Transport aims to operate environmentally friendly transport business by reducing environmental impacts focusing on reducing the energy consumption of freight trucks, CO<sub>2</sub> emissions, and waste emitted through the logistics process.

The amount of CO<sub>2</sub> emissions from the entire logistics operation of KOITO was 12,800 tons in FY 2021, which was less than the previous fiscal year due to the decrease in transportation. Energy per unit\* was 0.154 kl per billion yen, which was 9% lower than FY 2016 due to continuous improvement efforts.



※Energy usage per unit: Amount of energy (kl in crude oil equivalent) consumed in logistics per unit in sales (billion yen).

## Reduction of Environmental Impact Substances

To reduce environmental impact substances and waste, KOITO commits in its Environmental Policy to strive to “develop and establish new environmentally friendly technologies and products throughout the product life cycle” and “minimize the environmental impact and use of resources and energy in the manufacturing process,” and promoting relevant activities.

KOITO has set quantitative reduction targets for VOC emissions in the midterm priority activities. Activities are being implemented to reduce emissions while checking progress.

We are committed to actively engage in reducing environmental impact substances to materialize “Eco-friendly Manufacturing for People and the Earth.”

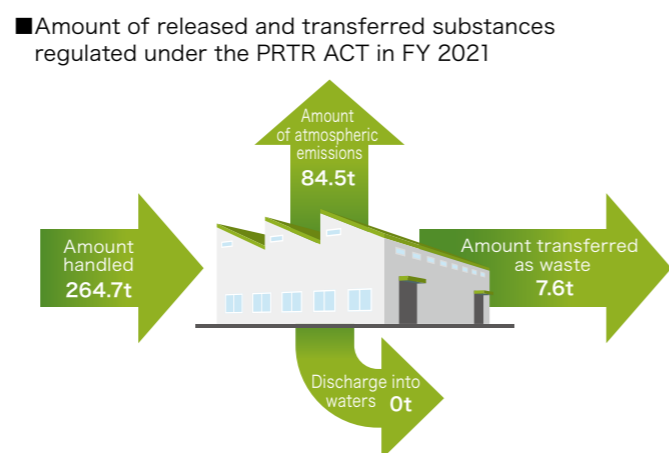
### Efforts in Production Processes

Some raw materials, such as paints and chemicals, as well as secondary materials used in the production processes, contain chemical substances that have negative environmental impacts. KOITO is reducing these environmental impact substances by reinforcing the management of the amount to use and emit, improving consumption efficiency, and using alternative substances.

#### Management of Substances Regulated under the PRTR Act

KOITO is keeping track of the amount of substances regulated under the PRTR Act handled or transferred in the production processes while managing them appropriately as well as reducing the amount to use and replacing them with alternative substances.

In FY 2021, KOITO have handled six substances subject to PRTR Act (Class 1 designated substances), including toluene and styrene. The amount of these substances handled was 264.7 tons, and the amount of atmospheric emissions and transfers as waste was 92.1 tons.

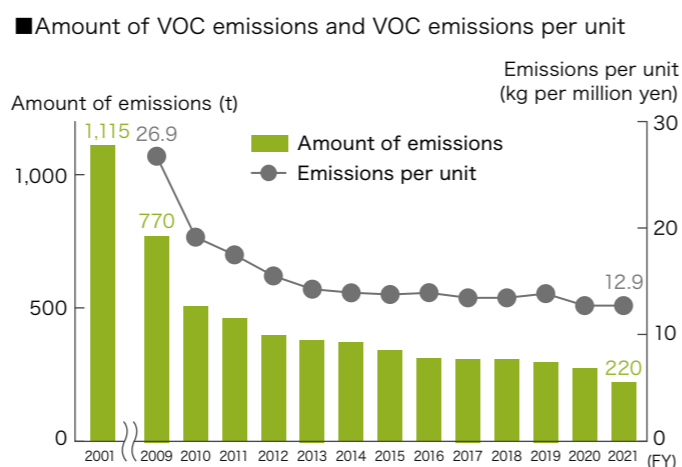


#### Reduction of VOC (Volatile Organic Compounds)

KOITO has set a target of reducing the amount of VOC emissions by 30% from the amount in FY 2001 by FY 2021, by keeping it in alignment with the Voluntary Environmental Action Plan of the Japan Auto Parts Industries Association and promoted several activities.

Our efforts resulted in an 80% reduction of the VOC emissions in FY 2021 compared to FY 2001. The VOC emissions per unit<sup>※1</sup> was successfully reduced by 52% from FY 2009, when the reduction activities started.

In addition, KOITO has not used the three major hazardous air pollutants<sup>※2</sup> since we had eliminated its use in March 2003.



※1 VOC emissions per unit: The amount of VOC emissions (kg) per production in monetary amount (million yen)

※2 Hazardous air pollutants: Dichloromethane, trichloroethylene, and tetrachloroethylene

## Resource Conservation and Recycling

Throughout our product life cycle, KOITO is actively working to effectively use raw materials, energy, and other resources, and to reduce water consumption and waste.

The KOITO Group will continue to actively promote “Eco-friendly Manufacturing for People and the Earth,” and strives to materialize a recycle-oriented society.

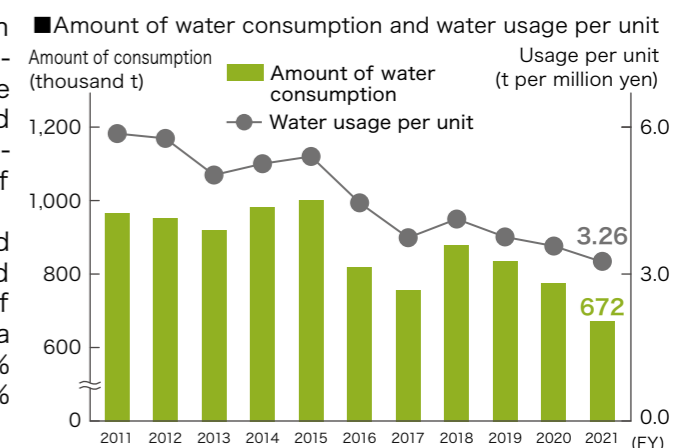
### Effective Use of Water Resources

Recognizing the importance of water resources in production activities and the risks that future economic growth, population growth, and climate change would have on water resources, KOITO has identified “conservation of water resources” as one of our materialities. KOITO is working on the effective use of water resources and protecting water quality.

To reduce the water usage per unit<sup>※</sup>, KOITO worked on enhancing the awareness of employees toward water conservation and improving the efficiency of water consumption in the production processes. As a result, the water usage per unit in FY 2021 was 44% lower and the amount of water consumption was 35% lower than FY 2009.

KOITO is also conducting water quality monitoring on the wastewater discharged from production sites to prevent water pollution in rivers or other bodies of water into which production sites wastewater is discharged.

※Water usage per unit: The amount of water consumption (tons) per production output (million yen)



### Efforts in Reducing Wastes and Recycling

KOITO is working on efficient recycling of materials (including waste, valuable materials, and recycled materials) discharged from all plants. After achieving zero-waste<sup>※</sup> in all plants in 2002, KOITO has been promoting waste reduction by setting the waste generated per unit as an index for recycling, mainly of plastics, and for efficient use of resources in production.

※Zero-waste: A situation in which no waste is directly disposed of as landfill within the waste discharged by the plant.

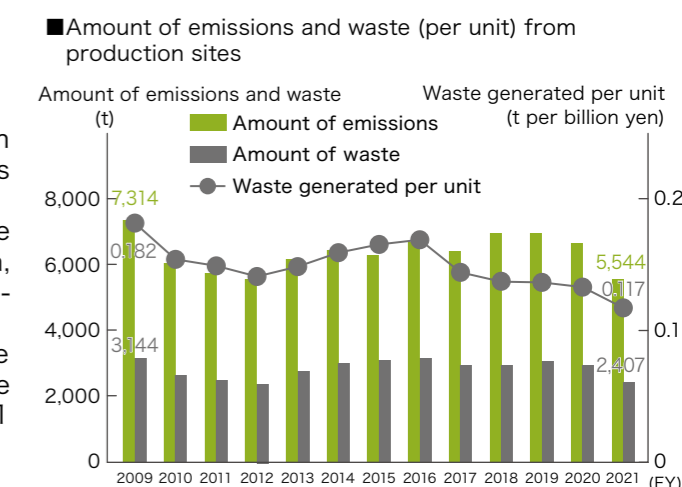
#### Efforts to Reduce the Amount of Waste from Production Sites and the Waste Generated per Unit

KOITO generated 5,544 tons of waste from plants in FY 2021, among which 2,407 tons were processed as waste<sup>※</sup>.

The waste generated per unit (the amount of waste per production output) was 0.117 tons per billion yen, which was 36% lower than FY 2009 due to the continuous efforts to reduce the loss of defective resins.

Furthermore, KOITO has also worked to improve recycling (reduce waste for thermal recycling), and the amount of resources recycled in FY 2021 was 5,231 tons.

※Waste: Generated material that requires processing costs, and the processing is outsourced to disposal businesses contractors



# Environmental Activities in Overseas Subsidiaries

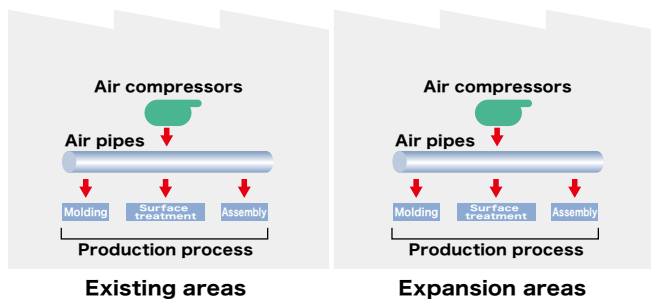
## ● Reducing Electric Power Consumption by Introducing Air Pressure Controlling System in Production Plant/North American Lighting, Inc. (NAL/U.S.A.)

At the Paris Plant in NAL, U.S.A., they were supplying air to each process by using air compressors installed in the existing areas and in the expansion areas. Since the air piping was independent for each area, even if the amount of air used decreased, they needed to keep air compressors in operation in both areas, and the use of electric power was inefficient.

They optimized the operations by connecting air pipes in both areas and introduced an air pressure controlling system. This enabled them to take in information on increase/decrease in air pressure to the control system, and control the air compressor to operate only when necessary. The introduction of this system has resulted in a 30% reduction in electric power consumption.

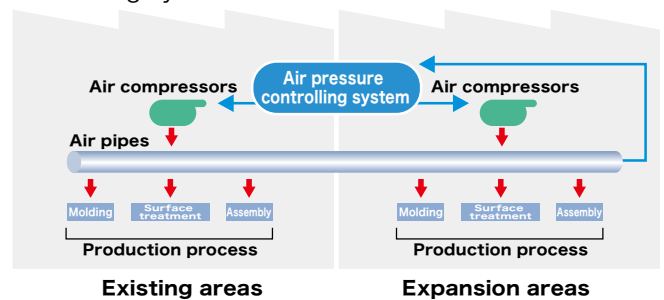
### Before introduction

Air piping was independent for each area



### After introduction

Connecting air pipes and introduced an air pressure controlling system



## ● Reducing Electric Power Consumption in Cooling Towers by Introducing an Inverter/KOITO EUROPE (KEL/U.K.)

In KEL, U.K., equipment cooling is conducted by cooling towers. The cooling tower is designed to cool equipment by circulating water with two pumps. As these pumps were always in operations, the use of pumps were inefficient.

In order to increase electric efficiency, they introduced an inverter that controls operations according to cooling demand so that the required amount of water is supplied only when necessary. A reduction of electric power consumption has resulted in reducing 66 tons of CO<sub>2</sub> emissions annually.



■ Cooling tower controlling panel



■ An introduced inverter

# External Evaluation on Our Environmental Activities

KOITO evaluates its own initiatives by identifying key domestic and overseas external indicators and evaluations, and analyzing the results. We are actively disclosing information by responding to external evaluations, including ESG (Environmental, Social and Governance) rating agencies.



In January 2021, the CDP Climate Change Report 2020, a survey of global companies on their strategies for climate change and specific greenhouse gas emissions, was published by the U.K. nonprofit organization CDP (formerly known as the Carbon Disclosure Project). KOITO received a "B-(Management)" rating in recognition of its efforts to address climate change, such as reducing CO<sub>2</sub> emissions and setting medium- to long-term targets, as well as its disclosures.