

## Harmony with the environment

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Environmental management

Reducing our environmental footprint

Managing information on chemical substances

### Environmental vision

INOAC respects the natural environment of our irreplaceable earth and contributes to realizing an affluent society that is comfortable to live in through technology harmonized with our environment and environment-friendly corporate activities.

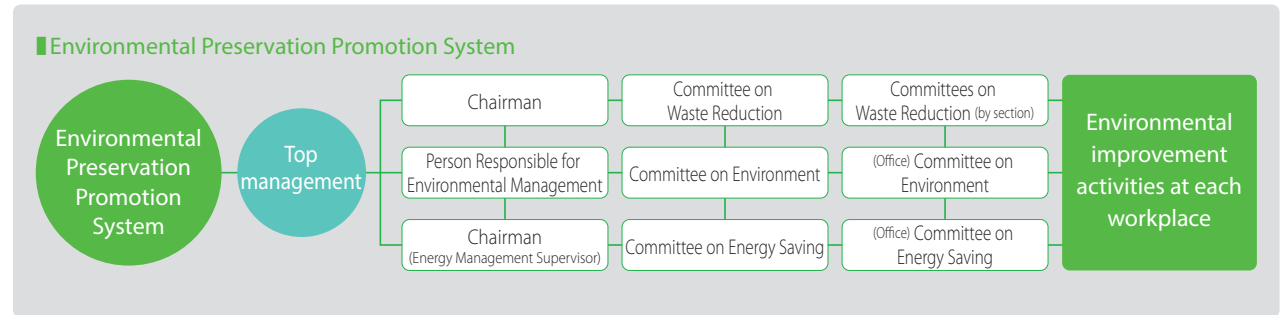
### Environmental policy

- (1) We comply with environment-related laws, regulations, and other requirements, and engage in business activities that society can trust.
- (2) We work to reduce CO<sub>2</sub> emissions such as by saving energy, to help prevent global warming
- (3) We work on resource conservation, waste reduction and recycling to contribute to a recycling-oriented society.
- (4) We properly manage chemicals that could impact the environment and seek to preserve our environment by reducing risk.
- (5) We actively develop products with less environmental impact, contributing to the conservation of nature throughout the life cycles of the products.
- (6) We engage in environmental management, educate employees about the environment, implement environmental audits, and continue to improve.
- (7) We contribute to establishing a sustainable society through local environmental preservation work as good corporate citizens.



### Environmental management system

In order to engage in environmental activities in an organized fashion, the Person Responsible for Environmental Management implements integrated management related to the environment, under the direct control of top management. In addition, the company as a whole also engages in environmental activities under the direction of the Committee on Environment. We have organized specific section committees to handle industrial waste and energy saving, and we coordinate environmental management through these committees while seeking further improvements in mitigating our environmental impact. As we strengthen the connection between environmental management and our main business in managing our objectives, we are also supporting the appropriate efforts where changes are taking place, such as newly built business locations, buildings, and production lines.



### Internal environmental audits








We implement internal environmental audits to check the operational state of our environmental management system. The audit team consists of two to three employees who have completed the auditor training prescribed by the company. The team checks if the environmental management system is being properly operated, maintained and improved. We create audit guidance and hold advance workshops for auditors at some locations in order to improve the quality of the audits.

### External environmental examinations

We ask the Japan Quality Assurance Organization (JQA), an external certification body, to conduct examinations to check if our environmental management system is functioning properly in accordance with ISO 14001:2015. In FY 2019 examinations were conducted at the Jinno R&D Center (Aichi Prefecture) and Hanyu Plant (Saitama Prefecture) along with change reviews for expanding the scope of activities. No areas were found to be in need of improvement as a result, and the auditors determined that the system is being maintained. As a general opinion, they pointed out the need to improve the capabilities of each location as the applicable scope of the system is expanding year by year.

### Summary of major activities in FY 2019

The results of INOAC's major environmental efforts in FY 2019 are shown in the table below. In terms of reducing CO<sub>2</sub> emissions that result from energy use, the Committee on Energy Saving continued to take the lead in various efforts, which enabled us to reach our targets. In terms of reducing waste disposal, we moved forward in reducing emissions, including recycling and measures against defects. However, we were unable to reach our targets because market conditions for resalable waste have become stricter each year. In terms of reducing emissions of substances subject to the Pollutant Release and Transfer Register (PRTR) system, we were unable to reach our target by a small margin because we transferred and closed several facilities, which resulted in the disposal of waste substances.

| Initiative  | Policies & targets in FY 2019  |   | Achieved in FY 2019   | Result  |
|---|--|---|---|---|
| Reduce energy consumption                                 | Factory-related  | Intensity (CO <sub>2</sub> emission/production sum) 0.612 or less<br>[CO <sub>2</sub> emissions 59,563 t-CO <sub>2</sub> (2018 result)] | Intensity 0.578<br>[CO <sub>2</sub> emissions 59,149 t-CO <sub>2</sub> (2019 result)] |    |
|   | Office-related   | CO <sub>2</sub> emissions 212,993 kg-CO <sub>2</sub> or less  | CO <sub>2</sub> emissions 322,345 kg-CO <sub>2</sub>                                  |    |
| Reduce waste  | Factory-related  | Measured units (CO <sub>2</sub> treated amount/production sum) 0.0607 or less<br>[Treated amount 6,766 t (2018 result)]                 | Measured units 0.0708<br>[Treated amount 7,245 t (2019 result)]                       |    |
|   | Office-related   | Treated amount 1,524 kg or less   | Treated amount 1,133 kg   |    |
| PRTR substances reduction in release and transfer amounts | Measured units ((amount emitted + amount transferred) / production sum) 1.86 or less<br>[Amount emitted + amount transferred 188,693 kg (2018 result)] |   | Measured units 2.05<br>[Amount emitted + amount transferred 209,635 kg (2019 result)] |   |
| Environmental improvement activities                      | Cases of environmental improvements (total in entire company) 1,123 cases or more  |   | 1,479 cases   |  |
| Environmental communication                               | Issue CSR report   |   | Issued  |  |

 Target reached  Target not reached

\* Business locations from which environment data is collected to summarize major activities are shown below.

|  |   |
|--|---|
| INOAC Corporation                                | Anjo Plant, Sakurai Plant, Nanno Plant, Yana Plant, Ishimaki Plant, Ikeda Plant, Ikeda 2nd Plant, Ohno Plant, Jinno Plant, Ukiha Plant, Head Office (Nagoya/Tokyo), Osaka Branch, Hanyu Plant, Jinno R&D Center |
| INOAC Housing & Construction Materials Co., Ltd. | Ibigawa Plant, Kofu Plant   |
| Kyushu INOAC Co., Ltd.                           | Kikuchi Plant, Ukiha Plant, Kitakyushu Plant  |
| Techno Foam Japan Co., Ltd.                      | Head Office, Saitama Plant  |
| Kyushu Color Foam Co., Ltd.                      | Higashi Nihon INOAC Co., Ltd.   |

\*The Hanyu Plant (factory-related) and Jinno R&D Center (office-related) were added to the data collection range

### Compliance with environmental laws and regulations

At INOAC, we identify environmental laws and regulations that are relevant to our business activities, and manage them on a daily basis. Through monitoring, measurement, and assessment at each plant, we prevent environmental pollution and otherwise conduct environmental risk management to ensure that we properly comply with laws and regulations related to noise and industrial waste treatment as part of our environmental management system. In accordance with business ethics, we will continue strictly adhering to environmental preservation agreements with local government, including environmental laws and regulations.

#### Major environment-related laws and regulations pertaining to our business

|                                   |  |
|-----------------------------------|--|
| Air                               | Air Pollution Control Act, Automobile Nox PM Law, Act on Special Measures against Dioxins  |
| Water quality & soil              | Water Pollution Prevention Act, Purification Tank Act, Sewerage Act, Soil Contamination Countermeasures Act  |
| Noise, vibration & odor           | Noise Regulation Act, Vibration Regulation Act, Offensive Odor Control Act   |
| Chemical substances               | Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof, Poisonous and Deleterious Substances Control Act  |
| Resource conservation & recycling | Act on the Rational Use of Energy, Act on the Promotion of Sorted Collection and Recycling of Containers and Packaging, Act on Rational Use and Appropriate Management of Fluorocarbons, Act on Special Measures concerning Promotion of Proper Treatment of PCB Wastes, Waste Management and Public Cleansing Act |
| Disaster prevention               | Fire Service Act, High Pressure Gas Safety Act   |
| General & others                  | Factory Location Act, Act on Improvement of Pollution Prevention Systems in Specified Factories, Radio Act   |

\* Local government ordinances are omitted

### Training for emergencies

We identify accidents and emergencies according to the characteristics of each business facility, and periodically conduct training to prevent environmental pollution from fires and chemical leakage (oils, solvents, etc.) from equipment and other facilities. General disaster training was held at the Anjo Plant (Aichi Prefecture) on May 29 and November 26, 2019 and other training is also conducted according to the characteristics of each department, including training for preventing outflows of raw materials and evacuation drills at night. In other facilities, training for emergencies is conducted on a preparatory basis.

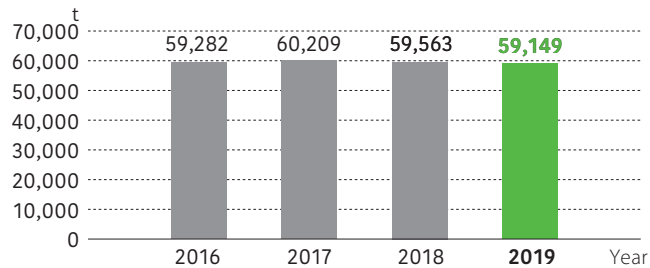


Anjo Plant: Firefighting team spraying water

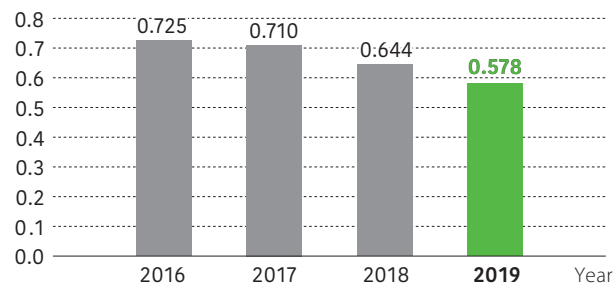
## Reduce energy consumption

To help to prevent global warming, we have been engaged in efforts to reduce CO<sub>2</sub> emissions by promoting energy saving. We made significant revisions to our INOAC Energy Saving Standards, and made efforts to visualize the progress of our energy-saving activities. Major activities in 2019 included thorough heat insulation measures, utilizing heat exhaust from compressors, eliminating air leakage, and applying heat shields to windows. In 2019, our CO<sub>2</sub> emissions resulting from energy use decreased a little—approximately 10% in terms of intensity—compared to 2018.

Energy use (CO<sub>2</sub> emission (t-CO<sub>2</sub>))



Energy use intensity (CO<sub>2</sub> emission (t-CO<sub>2</sub>)/production sum (million yen))



### Efforts

#### Key efforts to promote energy saving in 2019

|   |   |
|---|---|
| Insulating buildings using INOAC's thermal insulation board, THERMAX                  | Installing inverters into cooling tower fans to reduce energy usage                               |
| Reducing energy usage by utilizing heat exhaust from compressors to heat rooms        | Curtaining off areas of large workspaces to improve the efficiency of air conditioning            |
| Conducting air leakage patrols and eliminating air leakages at each business location | Switching to LEDs for fluorescent lights and using individual ON/OFF pull switches to save energy |
| Lining windows with INOAC's heat insulation sheet, CELL SHADE                         | Installing demand meters and visualizing demand as a measure to address peak energy usage         |



Thermal insulation of worksites with THERMAX



Utilizing heat exhaust from compressors



Curtaining off areas of workspaces

#### Other efforts to prevent global warming

INOAC is working on preventing global warming from other perspectives as well. During the summer, we hold our Summer Eco-style Campaign to educate our employees on how to save energy, such as by promoting "cool biz" energy saving attire. We are also engaged in cooperative transport and deliveries (milk runs), a

modal shift to railway and maritime transport, and consolidation of distribution bases. Furthermore, we have installed and are operating solar power generation equipment (total installed capacity 5,417 kw/h) in unused spaces on 15 different production plant sites throughout Japan.

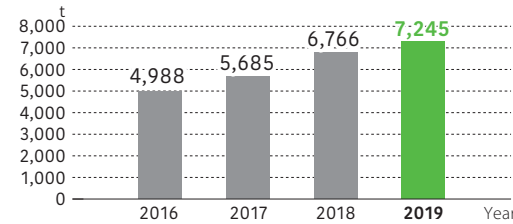
## Activities to reduce waste

All Committees on Waste Reduction throughout our company take the lead in promoting waste reduction activities. These include cutting back on losses by reducing defects and improving yield; expanding on the use of recycled materials, such as by separating and recycling used paper; promoting sales of the *long cushion* produced from material remnants (see article on the right for more details); and developing recycled materials.

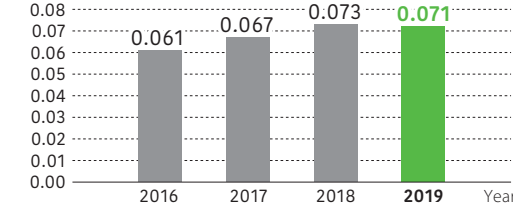
## Activities to reduce the use of environmentally hazardous substances

INOAC uses PRTR substances such as m-tolylene diisocyanate, a raw material for polyurethane foam as well as xylene and toluene which are used in coating processes. We are making efforts to cut back on the amount of these substances we use, release and transfer, such as by implementing alternatives to replace the use of 1-bromopropane as a cleaning agent which we were able to fully accomplish. Conversely, however, there were also increases in the use of such substances arising from new coatings for automotive purposes, so output intensity remained mostly level.

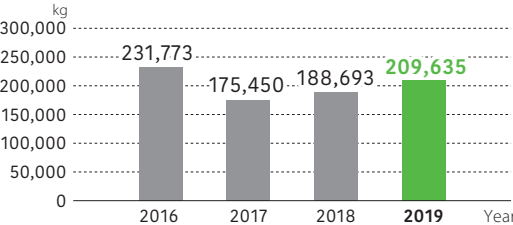
Waste treatment amount (t)



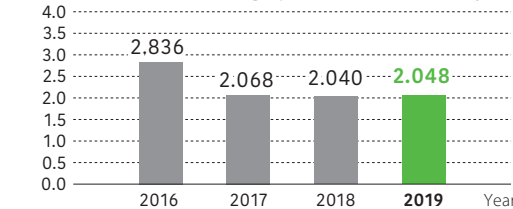
Measured units of waste treated (treated amount (t)/production sum (million yen))



PRTR substance release and transfer amount (kg)



PRTR substance release and transfer amount intensity (release and transfer amount (kg))/production sum (million yen)



## Development and manufacturing of the long cushion, a recycled product

We are developing and manufacturing products with material remnants of urethane that we produce, crushed into chips to be used as filling for cushions. With urethane in chip form, cushions exhibit less deformation over long-term use, thus extending the life of the product. Products have longer replacement cycles and produce less waste thanks to longer product life and the use of unneeded material remnants that had been treated as industrial waste.



\* Business places from which environment data are collected on pages 15 and 16 are shown below.

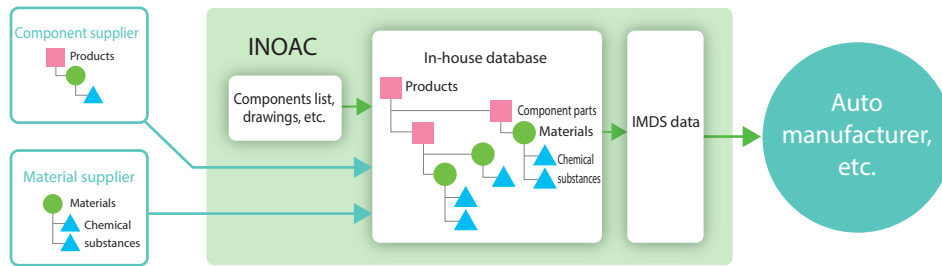
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### Promoting IMDS, chemSHERPA and more

INOAC registers information on chemicals and reports it to our customers through IMDS<sup>\*1</sup>, particularly in the automotive field which is our main field of business. We have a management system to obtain the necessary information via our supply chain and to register the information into IMDS.

#### Information collection through IMDS in INOAC – reporting process and chemical management system



We also collect information and report it to our clients using the chemSHERPA<sup>\*2</sup> format, which is widely used in the industrial world, especially the electrical machinery industry.

\*1 IMDS (International Material Data System): A database for transmitting and obtaining information on materials and chemicals over the Internet for the automotive industry, which was originally developed to comply with the EU ELV Directive.  
 \*2 chemSHERPA: A unified format to transmit information on chemicals contained in products in the supply chain, which the Ministry of Economy, Trade and Industry took the initiative in developing.

### Creating an in-house database

The Automotive Division is creating an in-house database through which information on chemical substances contained in parts and materials purchased from suppliers is identified based on information about chemical substances, and centrally managed. This has allowed us to be certain of our compliance with laws and regulations on chemical substances and client requirements which increase each year, while also helping to improve the efficiency and the reporting accuracy of information we register in IMDS and when examining the chemical substances contained in our products.

### Establishment and implementation of green procurement criteria

We ascertain what chemical substances are regulated by laws, regulations, and by our customers, based on which we create our green procurement criteria - a list of those chemical substances that we should work to reduce. We present these criteria to suppliers and use them to obtain information on chemical substances contained in raw materials to be purchased. We are also consistently monitoring the latest regulatory developments, based on which we revise these criteria once each year.

### Communication about chemical substance management

The Global Quality Assurance Division is a company-wide organization for environmental stewardship, which organizes and leads meetings for the chemical substance management sections of each department once every two months. They review the green procurement criteria, check the management system and establish or change its operating rules, and exchange opinions concerning the latest trends in chemical regulations, such as the REACH regulation and RoHS Directive. They also periodically audit the management system in each department to maintain and improve management systems that are appropriate and reliable.

