

Environment

Promoting Responsible Care Activities

Basic Policy for Responsible Care

Based on the principle of actively contributing to Responsible Care activities including environmental beautification and preservation through the creation of colors and landscape and the protection of materials and resources in the business activities, the Nippon Paint Holdings Group is committed to the activities through the coordination of all organizations in the Group, including all employees, with awareness of the respective missions and responsibilities, aiming to contribute to the establishment of relationships based on mutual trust with the global community, local communities, and customers. To this end, all of our business activities are required to follow the rules below:

- 1) We will endeavor to preserve the global environment and protect the ecosystem while striving to conserve energy and other resources in the course of all business activities.
- 2) We will promote the development of products with less environmental impact and technologies that help the products reduce such impact and will consider the impact of our products on the environment, safety, and health at all stages of their lifecycle from development to disposal.
- 3) We will work to reduce the environmental impact of our operations and ensure security and disaster prevention while striving to ensure the health and safety of local residents and employees.

Promoting responsible care activities

Organizational structure

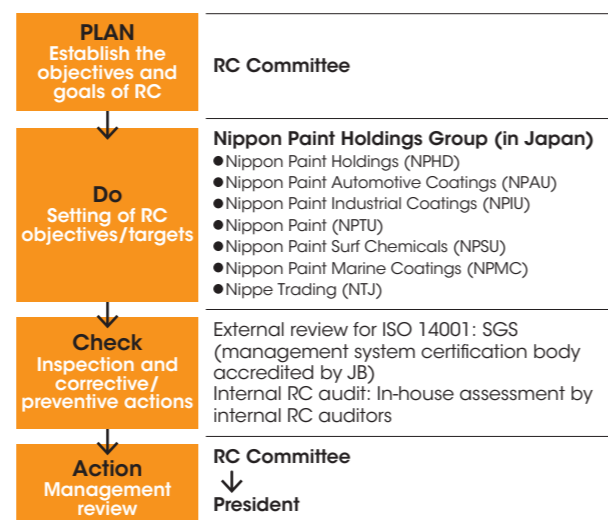
In consideration of the fact that the understanding and management of the environmental impact and safety of chemical substances is an important duty for paint manufacturers, we have re-established a management system to expand the scope to include occupational health

and safety and chemical and product safety in addition to the environment, and have conducted Responsible Care (RC) activities since FY2010. We will encourage employees to act in an autonomous and independent manner through the activities oriented to their primary duties for the efficient operation of the system while also continuously improving the system through the PDCA cycle.

Environmental and work safety management

Nippon Paint Holdings Group received ISO 14001 multi-certification for seven domestic operating companies and their subsidiaries. In addition, we provide active support to overseas Group companies for their health and safety activities. In Asia, we provide support to enable Group companies to establish improvement activities. In Europe and the Americas as well, we conduct audits and provide support for corrective actions on an as-needed basis in cooperation with domestic operating companies.

Responsible care organizational structure



Responsible care targets and results

| Priority subjects | Targets | Group-wide results |
|--|--|---|
| Occupational health and safety and security and disaster prevention | <ul style="list-style-type: none"> ● Improvements to the completeness of risk assessment and the planning and proper execution of risk reduction measures based on the assessment results, as well as strict compliance with risk acceptance measures ● Target: Zero occupational accidents or physical accidents | Each company performed safety activities based on the plan. As a result, a total of 21 accidents occurred in the Group in FY2019 (while 24 accidents, including three accidents resulting in lost time, occurred in the previous fiscal year), which consisted of one serious accident (loss of part of left thumb), seven accidents resulting in lost time, and 13 accidents without lost time. |
| Environmental conservation | <ul style="list-style-type: none"> ● Reduction of CO₂ emissions and energy consumption ● The basic KPI is a 1% reduction per unit ● Amount of landfilled industrial waste: achievement and maintenance of zero landfilled waste ● Compliance with voluntary standards for air and water quality. ● Reduction of emissions of substances subject to PRTR and VOC emissions ● Zero accidents involving soil/groundwater contamination and leakage of CFCs | CO ₂ emissions increased because of higher energy use at some companies due to increased production volumes and the continuous operation of equipment during the summer to prevent equipment failure. Unplanned construction work at some locations caused the volume of waste materials to increase. Air, water and soil protection targets were achieved at all factories and other business sites. There was one external soil contamination accident outside the premises involving a truck transporting products overturning and causing leakage in January 2019. |
| Safety for chemical substances and the environment | Promotion of the development and sales of products that reduce environmental impact at the time of coating or disposal and products that can reduce environmental impact based on film-forming performance, such as process-shortening products, environmentally friendly products, and low-VOC paints | Sales of products that reduce environmental impact (low frictional resistance) at the time of coating exceeded the target. Although the basic design of products that can reduce environmental impact based on film-forming performance was completed, the introduction of such products into the market was delayed, causing their sales volumes to fall short of the target. |

Eco-Friendly Products

Initiatives to disseminate eco-friendly products

The Group is committed to mitigation of environmental impact caused by products and services. We will continue to use partnerships with various parties for creating innovations and deploy such innovations worldwide to help solve environmental and other social issues.

Initiatives in FY2019

Decorative paints

Perfect Interior Air Clean, a product of NPTU, is an anti-bacterial and anti-viral paint for building interiors that delivers safety and security to society.

This paint product contains a visible light-responsive photocatalyst to inhibit the proliferation of bacteria and virus. Furthermore, a special absorbing material in this product removes unpleasant odors from rooms. This product itself has only a minimal aroma after application, enabling it to be used almost anywhere. This new product has been drawing enormous attention since the recent outbreak of the COVID-19 pandemic.



Perfect Interior Air Clean

Automotive coatings

An effective measure to improve the fuel efficiency of cars is to reduce the weight of car bodies. The range of car body parts to which resin materials, which are lighter than steel materials, can apply is expanding. NPAU is developing paints that can react at low temperatures and also deliver the necessary performance on any type of material with the aim of painting steel materials and resin materials together. NPAU will continue to cooperate with car manufacturers to develop eco-friendly products.

Industrial coatings

ATTSU-9 ROAD, NPIU's heat shielding coating for road surfaces, reduces the temperature of asphalt highways by reflecting sunlight. Furthermore, this solvent-free paint product has no VOC emissions and almost no odor. Using this product is expected to help conserve energy by holding down temperatures in urban areas.



Road coated with ATTSU-9 ROAD

Marine coatings

NPMC's energy-conserving LF-Sea marine coating was first sold in 2008. Since then, this coating and its successor, A-LF-Sea, have been used on more than 3,000 vessels. NPMC is working on the development of FASTAR, a new marine coating to go on sale in 2020. This coating will reduce fuel consumption and VOC emissions and has low elution. NPMC will continuously introduce products that contribute to protecting the environment.



Vessel coated with LF-Sea

Surface treatments

NPSU is rolling out a film-forming agent with a low environmental impact.

This agent has the same properties as those of the widely used zinc phosphate treatment but does not contain any heavy metals (zinc, nickel, manganese), ions, or phosphorus. This agent can reduce sludge to one-tenth, and does not require a surface adjustment process, enabling a reduction of industrial waste and water use.

Dunn-Edwards products

Throughout its history, Dunn-Edwards has been a leader in the development of products that protect the environment. Specific examples are introduced in the company's history and the origin of its motto, 'Greener by Design.' In 2011, Dunn-Edwards constructed a factory that received LEED® Gold Certification. In 2016, the company started selling ARISTOSHIELD®, a water-based paint with properties of oil-based paints. Nippon Paint and Dunn-Edwards have been collaborating in many projects.

Ethylene glycol-free products from Dunn-Edwards



Environment

Environmental Impact Reduction

Prevention of climate change

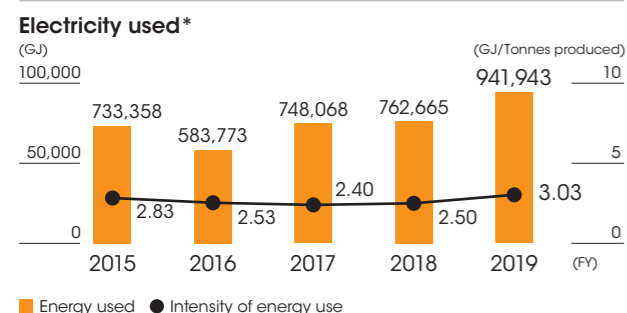
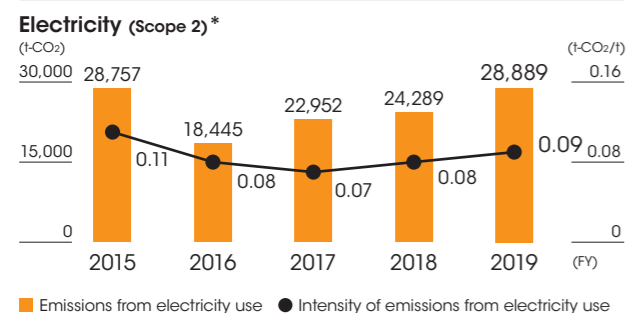
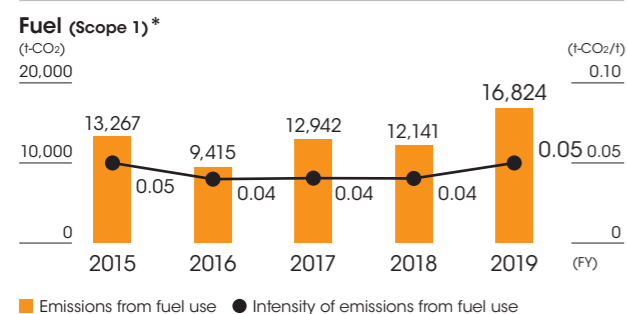
Nippon Paint Holdings Group is committed to the prevention of global warming in Japan mainly through efforts to reduce energy use.

In FY2019, CO₂ emissions from electricity use and per unit emissions increased due to the expansion of the scope of data collection to include the Group's subsidiaries.

The following is a list of several examples of the group's energy conservation initiatives.

- Improvement of paint production processes (dispersion process and other measures)
- Installation of high-efficiency boilers and electrical panels
- Review of the optimal operating conditions for large equipment (compressors, freezing/refrigeration units, others) used for manufacturing
- Energy conservation in offices (strict control of AC thermostat settings, turning off unused office equipment)

Data on the emissions of greenhouse gases other than CO₂ are not disclosed because they are negligible.



Reduction of waste, etc. and zero emissions

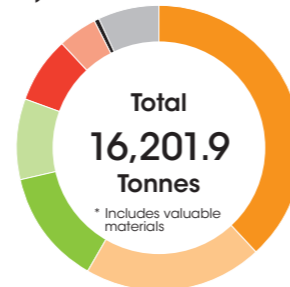
In Japan, the Nippon Paint Holdings Group has adopted an integrated waste material management system that is compatible with the electronic manifest system. We make Group-wide efforts to reduce waste such as management, proper disposal, and effective use of waste generated.

In FY2019, the amounts of waste generated increased due to soil emissions from unplanned construction work at some business sites, causing the recycling rate to decrease.

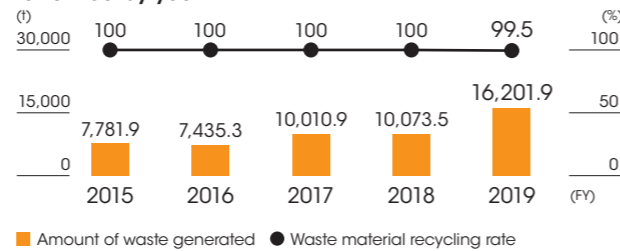
We will work to enhance waste management in order to reduce waste generation and achieve a recycling rate of 100%.

Breakdown of waste, etc. (FY2019)*

| | |
|-----------------------|---------|
| Waste solvent | 6,187.8 |
| Waste metal | 3,278.5 |
| Waste coating | 2,113.5 |
| Sludge | 1,479.0 |
| Waste plastics | 1,248.6 |
| Waste acid and alkali | 705.9 |
| Incinerator ash, dust | 90.8 |
| Other | 1,097.8 |



The amounts of waste, etc. generated, recycled, and landfilled by year*



Total cost of environmental fines and other penalties

In 2019, the Nippon Paint Holdings Group was not subjected to any fines or other forms of punishment due to violations of environmental laws or regulations.

Comprehensive management of chemical substances

Initiatives in FY2019

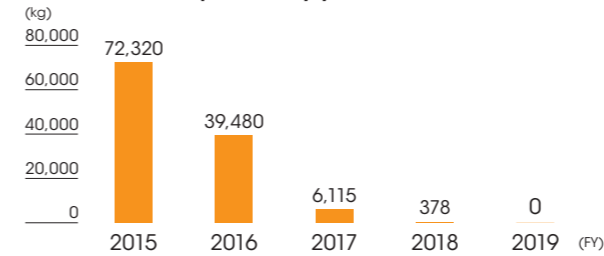
Paints contain various chemical substances originating from their raw materials and some of them can be harmful to the human body or the environment. For the management of these chemical substances, the Group Product Safety Committee, which is set up under the Responsible Care Committee, holds discussions with Group companies and prepares management standards to standardize the handling of chemical substances and

prevent incorrect operation. We properly responded to domestic and international laws and regulations in FY2019, including the submission of notifications in accordance with the revised Chemical Substance Control Law and partial revision of the Cabinet Order for the Designation of Poisonous and Deleterious Substances, as well as the submission of preliminary notification about existing chemical substances in accordance with South Korea's Act on the Registration and Evaluation of Chemicals (K-REACH).

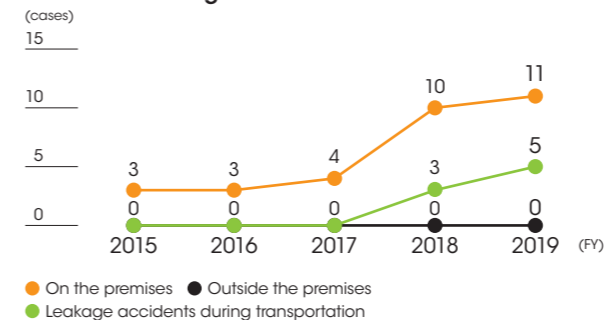
Measures to prevent the leakage of hazardous materials

We have designed measures to prevent the leakage of hazardous materials and obtained materials for leakage treatment and also provide training dedicated to the prevention of the leakage of hazardous materials in an emergency drill organized in each area every year. For example, we assume a case where products have leaked on the road after an accident with a truck transporting them on a surface road and provide training for preventing expansion of the leakage and recovering the products in order to develop the ability to respond quickly to emergency situations.

Use of lead compounds by year*



Number of leakage accidents*



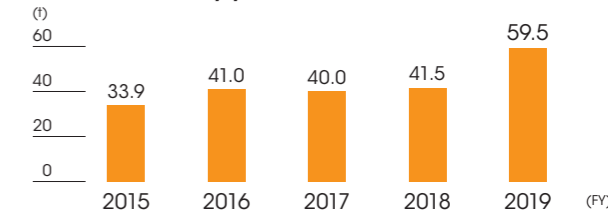
Air and water conservation

The Group complies with all laws and regulations pertaining to air pollution and water contamination through setting of voluntary reference values and other measures in Japan. In FY2019, emissions and the amount of water used increased because the scope of data collection was expanded to include the

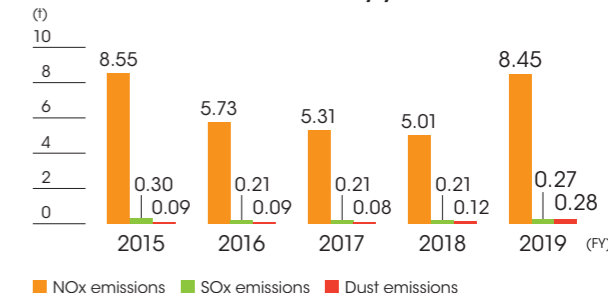
group's subsidiaries.

We make efforts to prevent air and water pollution through periodic pollution load measurements, improvements to the efficiency of cleaning processes at production sites, and recycling the water used for these processes.

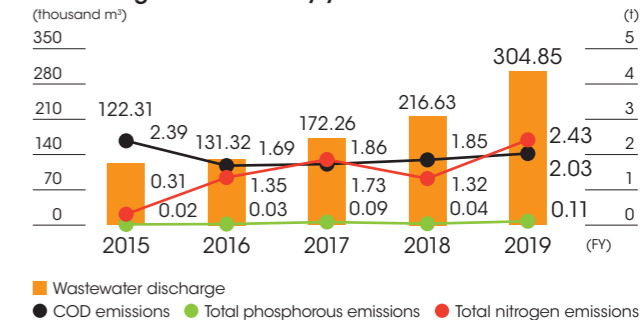
VOC emissions by year*



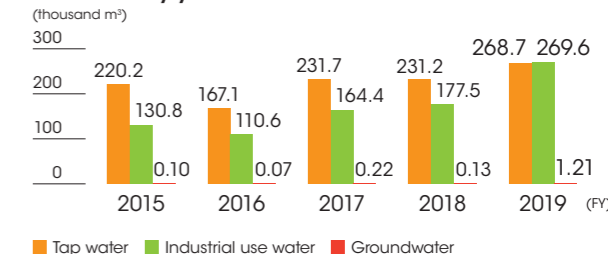
NOx, SOx and dust emissions by year*



Wastewater discharge and COD, total phosphorus, and total nitrogen emissions by year*



Water use by year*



* Scope of data collection: NPAU, NPIU, NPTU, and NPSU for the data in FY2015; NPAU, NPIU, NPTU, NPSU, and NPMC for the data from FY2016 to FY2018; NPAU, NPIU, NPTU, NPSU, NPMC, AS Paint (ASP), AS Resin (ASR) and Nippon Paint Anti-Corrosive Coatings (NAC) for the data in FY2019. Data collection period: January to December; April to December for FY2016.