



# Sustainable Use of Natural Capital

## Protecting the Atmospheric Environment

### Examples of Initiatives

By strengthening our measures for fixed emission sources, we are working on reducing our various environmental impacts, including emissions of soot and dust mainly from boilers and gas turbines, leaks of fluorocarbons from refrigeration equipment, emissions of mercury from industrial waste incinerators, emissions of chemicals and VOCs from manufacturing plants, and airborne asbestos from the demolition of buildings. In addition, we focus on realizing the following goals as an appropriate response to laws and regulations.

- Regarding refrigeration units using CFCs and HCFCs, we are systematically upgrading to equipment that uses low GWP HFCs or non-fluorocarbon refrigerants (Ozone Layer Protection Law). We are also steadily disposing of the fluorocarbons from refrigeration and air conditioning equipment to be thrown away. (Act for Rationalized Use and Proper Management of Fluorocarbons)
- We will remove all electronic equipment that uses PCBs (in storage or in operation) ahead of the deadline of March 2025. (Act on Special Measures against PCB Waste)

### Reining in PM2.5\* Emissions

We conduct detailed surveys of boilers, gas turbines, heating furnaces, dry furnaces, cracking furnaces, waste incinerators, and other such equipment, testing for emissions of VOCs and other gaseous atmospheric pollutants, soot, SOx, NOx, and hydrogen chloride, which are also the source of secondary particles and PM2.5. We strive to further reduce emissions for each source by taking measures to switch to alternative fuels.

\* Particulate matter of up to 2.5 µm in diameter

[▶ Environmental Activities: Supplementary Data](#)

### Responding to Fluorocarbon Emission Controls

#### ① Initiatives to reduce leakage

We conduct twice annual fluorocarbon leakage surveys at all worksites to assess leakage amounts, identify equipment with significant leakage discovered during the assessment, and clarify the sources of leaks, then take measures to prevent recurrences. Specifically, in addition to the simple and regular inspections defined in the Act for Rationalized Use and Proper Management of Fluorocarbons, which we carry out as directed as a matter of course, we carry out more frequent inspections in order to quickly discover and minimize leakage.



#### ② Management for disposal

When disposing of equipment, to ensure fluorocarbon refrigeration equipment is properly treated, we diligently utilize disposal check sheets for Class I designated products so that there are no gaps in their management linked to fixed asset ledgers or in procedures for recovering fluorocarbons.



HFO (R1233zd) refrigeration equipment

#### ③ Systematic upgrades and use of green coolants

Regarding CFC and HCFC refrigeration equipment employed in production processes, we have set a target deadline for upgrading the equipment and conduct progress surveys once a year.

In addition, we are promoting a switch to green coolants at all Group companies in Japan, and Group companies in Japan and all worksites are promoting a switch to HFO refrigeration equipment.

#### ● Upgrade Deadlines for Each Type of Equipment

- CFC equipment: Eliminate use of these units by fiscal 2025 (currently a total of 20 units held by the Group in Japan)
- HCFC equipment: Eliminate use of these units by fiscal 2045 (currently a total of 277 units held by the Group in Japan)



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### ■ Calculated Leakage for Fluorocarbons

	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022
Calculated leakage (tons-CO <sub>2</sub> )	9,135	4,782	7,675	9,354	4,362	5,100	5,844

### **Emissions of Mercury into the Atmosphere from Waste Incinerators**

We measured concentrations of mercury (both gas and particles) emitted into the atmosphere by our waste incinerators, which we own, and completed a study of the impact of these emissions. The results have confirmed that mercury is being effectively removed by emission gas removal equipment, including bag filters and scrapers installed at incinerators, and that the concentration of mercury released into the atmosphere from all of the incinerators we own is within the emission guideline value set under the Air Pollution Control Act.