# Environment

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### **Environmental Management**

# **Environmental Management Structure**

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Introduction

# Basic Policy on Environmental Management and Structure

### **Environmental Management Globally**

Following the Basic Environmental Policy of the Daikin Group, to promote environmental management throughout the Group, Daikin manages environmental issues related to climate change, water, and waste in each of the five regions including Japan, Europe, the U.S., China, and Asia/Oceania through regional environmental meetings and product environmental meetings.

Regional environmental meetings are held in each region, including Europe, the United States, China, and Asia/Oceania, annually and attended by environmental managers from each base. Efforts aimed at environmental burden reduction and biodiversity preservation are implemented at manufacturing bases. In addition, we hold Global Environmental Meetings every two years. At the meetings, local base presidents, environmental heads, and environmental managers in each division share Group policy and medium- to long-term targets. In addition, product environmental meetings are held every year and attended by promotional managers of each region in developing products with reduced environmental impact, such as air conditioners. Policies and implementation of development and promotion of environmentally conscious products are discussed, such as products that utilize refrigerants with lower global warming potential and energy efficient inverter technology.

Important themes are then deliberated on by the CSR Committee, and reported to the Board of Directors after being proposed to the CEO.

#### 176 Data Policies, Regulations and Guidelines Basic Environmental Policy

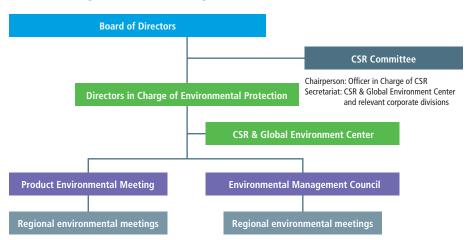
## **Environmental Management System**

Daikin has built and operates an environmental management system (EMS) in accordance with ISO 14001. The creation of environmental management systems is proceeding at companies that are new to the Daikin Group as we work toward certification for ISO 14001 at all bases. To ensure the reliability of data and improve our mechanisms for environmental management, we have data on emissions of greenhouse gases, water, waste, and chemicals verified by a third party.

At each Daikin production base and office, systems are in place to minimize environmental damage in the unlikely event that accidents or disasters should occur. Also, we seek closer interactions with nearby residents' associations and conduct factory tours among other daily efforts to maintain an emergency contact system coordinated with local communities.

The Daikin Group makes it a rule to publicly announce all instances of major legal violations related to business operations. There were no cases of major legal violations in fiscal 2023 at Daikin.

#### Structure Driving Environmental Management



#### Ratio of Employees Belonging to Facilities with ISO 14001 Certification (FY2023)



P Daikin Bases Certified for ISO 14001

https://www.daikin.com/-/media/Project/Daikin/daikin\_com/csr/pdf/environment/2024/certified-pdf.pdf

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## Audit by Internal Auditors and Certification Bodies

At Daikin, based on ISO 14001, inspections by certification bodies are conducted and internal audits are implemented annually. Internal audits focus on conformity with standards and confirmation of legal compliance. In the fiscal 2023 internal audit of the Daikin Group in Japan, we confirmed legal compliance mechanisms and the status of carbon neutrality initiatives, with six nonconformities having been corrected.

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See below for findings from our environmental audits

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#### Internal Auditor Training

As of the end of fiscal 2023, there are currently 86 internal auditors undergoing training and skills improvement at the Daikin Group in Japan. Newly appointed and experienced auditors work in pairs so as to pass on skills from one generation to the next and 10 newly appointed auditors work as assistant auditors. Internal auditors also take annual training to improve their skills and ensure standards are being thoroughly met.

In addition to lectures, the training in fiscal 2023 incorporated mock audits that simulate actual audit situations. Going forward, we will focus on enhancing the skills of newly appointed auditors with an eye toward the generation change taking place among auditors.

## **Green Heart Factories and Offices**

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#### **Green Heart Factories**

In fiscal 2005, Daikin established Green Heart Factory, its own unique system to evaluate the environmental and social performance of environmentally conscious factories. This certification is awarded once every two years. In 2021, we reviewed assessment criteria and visualized environmental initiatives such as reduction of CO<sub>2</sub> emissions and water usage, along with the progress of SDG achievement at our plants involving social issues. In turn, we certified the actions of each business site into the four stages of platinum, gold, silver, and bronze. In the 2022 assessment, two plants were certified gold, 17 as silver, and 10 as bronze.

#### **Green Heart Offices**

Daikin Industries began the "Green Heart Office" initiative in fiscal 2011 to promote environmental activities at non-manufacturing bases such as offices. In fiscal 2014, we created a three-stage ranking comprising gold, silver and bronze to evaluate the level of initiatives being undertaken by each base based on "reduce resource usage" and "awareness and contribution."

In fiscal 2021, all nine of our offices received Gold Class certification. Since then, we have continued to strengthen our efforts. In fiscal 2023, we began a drastic review of our evaluation items in light of changes in the office environment due to the relocation of our Head Office and Tokyo Office as well as the strengthening of our carbon neutrality initiatives.

051 Environment Response to Climate Change Initiatives in Manufacturing (Development and Production) and Offices

## **Environmental Management**

# Overview of Environmental Impacts

The Daikin Group measures the impact that its business activities have on the environment throughout the value chain: in materials procurement, development, production, transportation, installation, product use, recovery, and recycling. Air conditioners are products that consume large amounts of electricity, and within their product lifecycle, the energy consumed during product use makes a particularly large contribution to climate change.

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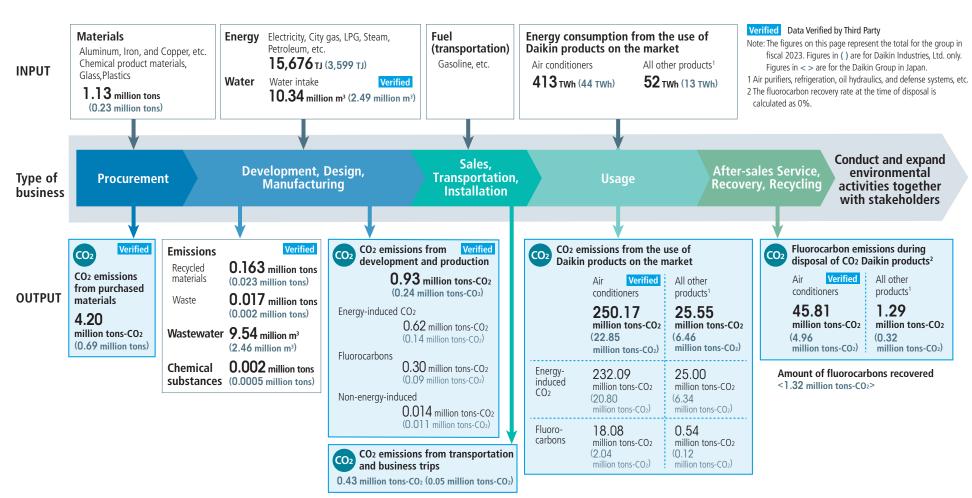
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See below for GHG emissions in the value chain (Scope 1, 2, 3). the method of calculating greenhouse gas emissions data

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167 Data Third-Party Verification Method of Calculating Greenhouse Gas Emissions Data



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#### **Environmental Management**

# **Environmental Risks and Opportunities**

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## Daikin's Environmental Risks and Opportunities

## Identify Climate Change as the Top Priority Issue

In 2018, we identified environment-related risks and opportunities pertinent to our company, including climate-related risks. The process involved taking in feedback and opinions from experts within and outside of the company, based on prediction of the society in year 2050.

The identified environment-related risks and opportunities are evaluated, organized, and analyzed from the two viewpoints of degree of impact on business and likelihood of occurrence. Based on this, environmental issues that our group company must pay attention to for year 2030 have been drawn.

Among the identified environment-related risks and opportunities, Daikin takes measures in accordance with TCFD recommendations and discloses information in dealing with climate change because it considers this to be the issue with the greatest impact on its management.

#### 018 Management Information Disclosure Based on the TCFD Framework

### Identification, Evaluation and Management Process of Environment-**Related Risks and Opportunities**

We gather information on environment-related risks and opportunities, including those related to the climate, from business bases of each region around the world. Information gathered is then evaluated, organized and analyzed for the degree of impact on business and likelihood of occurrence, and used for identifying environmental-related risks and opportunities of important relevance to our Group. The program policy and measure to address these risks and opportunities are then developed and deliberated by the CSR Committee, followed by proposal to the CEO and report to the Board of Directors.

Program policy and measures are reflected in the mid-term management plan, and carried out at each business division.

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		Impact on Daikin's business	Probability of occurrence	Potential financial impact
Risks	Transition	Stricter regulations on refrigerants If regulations on refrigerants become too strict, existing air conditioners will no longer be compliant with these regulations and become obsolete		Large
		Tight supply and demand for electricity  The spread of air conditioners in emerging countries will increase electricity usage and make it difficult to increase sales of air conditioners due to electricity shortages	High	Large
	Physical	Production delays due to water shortage or major disasters  Manufacturing bases located in areas of high water stress or susceptible to major disasters caused by extreme weather face the risk of disruptions in production due to the shortage of water	Medium	Medium
Opportunities	Transition	Stricter regulations on refrigerants  Companies without technologies compliant with regulations on refrigerants will be weeded out, resulting in increased sales of air conditioners using refrigerants with lower global warming potential, which is our strength	High	Large
		Stricter regulations on energy efficiency Companies without technologies compliant with stricter regulations on energy efficiency will be weeded out, resulting in increased sales of air conditioners with high energy efficiency, which is our strength	High	Large
		Stricter regulations on the use of fossil fuels Regulations on the use of fossil fuels continue to become stricter, and since gas-combustion heating will be subject to them, there will be an increase in sales on growing demand for heat pump heating, which is our strength	High	Large
		Depletion of raw material resources Resources for raw material deplete, affecting business operation	High	Large
		<b>Tightening of regulations on chemical substances</b> As regulations become stricter, chemicals that are not in compliance with these regulations can no longer be sold	High	Large
Risks		Enhanced regulation on the use of plastics Demand (regulation) created for reducing plastics usage as the demand for sustainable use of plastics increases	High	Medium
		Environmental pollution from manufacturing bases  Chemical substance management at manufacturing bases not functioning, and harmful substances released causing regional environmental pollution, which as a result, causes claims for damages or declining trust of society	Medium	Large
		Conservation of ecosystem Appropriate action is required in response to the breakdown in the balance of ecosystems	Medium	Small
Opportunities		Increased awareness toward air quality As air pollution becomes more serious, the needs for quality air increases	High	Large
	Opportunities	Physical  Opportunities Transition  Risks	Stricter regulations on refrigerants	Stricter regulations on refrigerants   High

### **Environmental Management**

# **Environmentally Conscious Design**

## Initiatives for Environmentally Conscious Design

#### Commercialize Only Products that Meet Assessment Criteria

In the air conditioning divisions, besides factors like performance and usability, Daikin stresses environmental performance in product development, and incorporates product assessment in the planning and design stages for new products. Product assessment consists of 13 assessment items that we strictly adhere to in developing products.

We also assess global warming impact of air conditioners using the life cycle assessment (LCA) method, which allows us to determine the environmental impact at each stage of a product's life cycle. Products only make it to market after we have assessed them against their predecessor products to confirm they exert less environmental impact.

#### **Product Assessment Items**

- 1. Weight reduction of products
- 2. Use of recycled materials and parts
- 3. Packaging
- 4. Reduction in environmental impact during the manufacturing process
- 5. Energy and resource conservation in use
- 6 Product life extension
- 7. Ease of delivery/collecting/transporting

- 8. Raise possibility of reuse of resources
- 9. Ease of disassembly and separation of materials by hand
- 10. Ease of shredding/classifying for recycling

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- 11. Environmental conservation capabilities
- 12. Disclosure of information
- 13. LCA

See below for our full text on product assessment evaluation items

181 Data Policies, Regulations and Guidelines Product Assessment Items

In the chemicals divisions, when developing new products, we strive to design products that minimize waste and maximize long-term use, emphasizing not only the performance and ease of use but also the environmental emissions during manufacturing and the environmental consciousness of products during and after use.

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### **Response to Climate Change**

# Challenge to Achieve Carbon Neutrality

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## **Basic Policy**

Addressing climate change is a top priority for Daikin among its key sustainability issues. Daikin is committed to reducing greenhouse gas emissions throughout its value chain, from materials procurement to development, manufacturing, product usage and disposal.

#### Daikin's Greenhouse Gas Emissions

Daikin's greenhouse gas emissions throughout the value chain are calculated based on the international guidelines of the GHG Protocol.\* The energy consumption of air conditioners in operation and refrigerants have a large impact on greenhouse gas emissions. Daikin establishes and implements initiatives based on these calculation results with set targets and plans.

\* An international guideline on the calculation and reporting of greenhouse gas emissions. The standard for businesses divides emissions into three scopes (Scope 1, 2, and 3), while Scope 3 is divided into 15 categories.

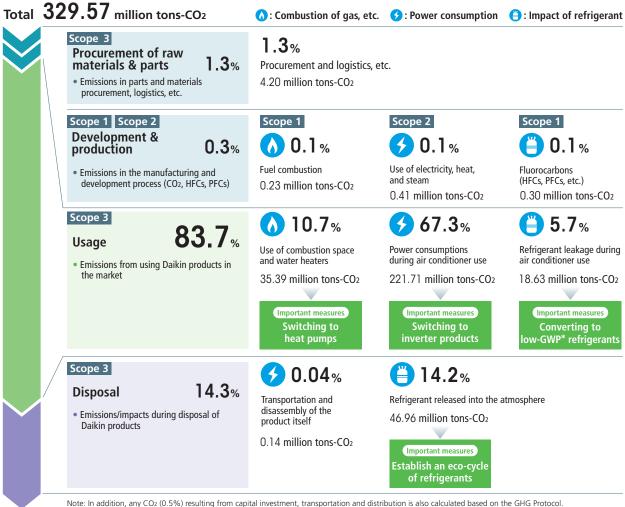
I□ Greenhouse Gas Protocol

https://ghaprotocol.org/

See below for greenhouse gas emissions in the value chain (Scopes 1, 2, and 3)

145 Data ESG Data Environment Mitigating **Environmental Impacts in the Value Chain** 

Overview of Daikin's Greenhouse Gas Emissions (Scope 1, 2, 3) (FY2023)



145 Data ESG Data Environment Mitigating Environmental Impacts in the Value Chain

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# Targets and Measures for Carbon Neutrality

#### Initiative Overview

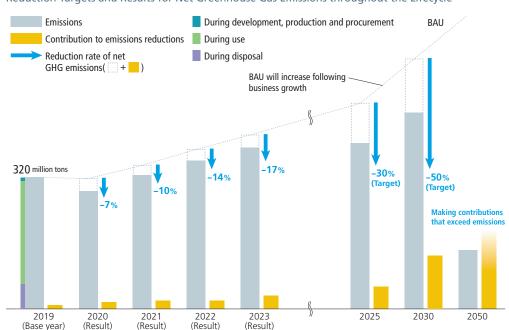
Daikin aims to achieve net zero greenhouse gas emissions throughout its value chain in 2050. As a medium-term goal, Daikin aims to reduce its net emissions<sup>2</sup> by at least 30% in 2025 and by at least 50% in 2030, with 2019 as the base year assuming BAU. These targets are incorporated into the Fusion strategic management plan, with various measures being implemented in terms of both reducing emissions and increasing contribution to emissions reduction.

Daikin is determined to push forward energy saving during product usage, conversion to low-GWP refrigerants, and recovery of refrigerants at the time of product disposal aimed at reaching the targets. Our goal is to contribute to reduced greenhouse gas emissions in society by creating and spreading products and services with a low environmental impact. Moreover, while emissions resulting from Daikin's manufacturing and development processes account for a small fraction of its total emissions, Daikin will strive for their reduction following the 1.5°C scenario as these emissions can be directly controlled.

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#### 1016 Management Overview of Sustainability Environmental Vision 2050

#### Reduction Targets and Results for Net Greenhouse Gas Emissions throughout the Lifecycle



#### Measures Aimed at Reducing Net Emissions

 Measures during manufacturing (development and production) and at offices Emissions reduction Reduction of energy-induced and HFC/PFC-induced emissions during development and production Emissions reduction Promoting inverter products, improving the energy efficiency of equipment through the development of elemental technologies, expanding adoption of energy-efficient systems Increased contribution Replacing non-inverter equipment from other companies to to reduction inverter units Promote heat pump space and water heaters

 \[
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 \] Emissions reduction Replacing combustion space and water heaters, increasing efficiency Increased contribution Expanding sales of heat pump space and water heaters (replacing equipment from other companies) Reduce environmental impact of refrigerants

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 \ Emissions reduction Promote R-32 refrigerants, develop next generation refrigerants, select low GWP refrigerants and equipment development creased contribution Replacing R-410A on competing brand equipment with R-32, promote to reduction eco-cycle of refrigerants (refrigerant recovery, recycle, and reclamation) Measures toward a decarbonized society 053 CO<sub>2</sub> recovery and utilization (DAC, CCU), power initiatives such as energy creation and demand control, atmospheric water generator, etc. Circular economy initiatives <u>\$\square\$\$ 054</u>

Recovery, recycle, and reclamation of refrigerants, utilization of recycled materials, etc.

<sup>&</sup>lt;sup>1</sup> Business As Usual: BAU refers to emissions in case of normal business growth without the implementation of countermeasures.

<sup>&</sup>lt;sup>2</sup> Defined as the total after subtracting our contribution to remissions reduction from our total greenhouse gas emissions. See the next page on contribution to emissions reduction.

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#### Contributions to Reductions of Greenhouse Gas Emissions

Daikin calculates its amount of overall contribution in greenhouse gas reduced through the promotion of its low environmental impact products and services as greenhouse gas emissions reduction contributions. The calculation is performed using existing emissions as the baseline figure to determine the amount of possible reduction in emissions when using Daikin's products and services. In fiscal 2023, the total reduction contribution was 33.65 million tons-CO2.

As of March 2024, there is no international standard for calculating reduction contributions. However, Daikin is a participant in discussions on the establishment of rules governing reduction contribution conducted by the World Business Council for Sustainable Development (WBCSD), the International Electrotechnical Commission (IEC), and the GX League promoted by the Ministry of Economy, Trade and Industry. Daikin's reduction contributions are calculated according to the guideline published by the WBCSD and GX League.<sup>1</sup>

See below for Daikin's contribution to greenhouse gas emissions reduction.

145 Data ESG Data Environment Mitigating Environmental Impacts in the Value Chain



Contribution by switching from combustion-type to heat pump space and water heater

- <sup>1</sup> Basic Guidelines for Disclosure and Evaluation of Climate-related Opportunities (published in March 2023 by GX League), Guidance on Avoided Emissions (published in March 2023 by WBCSD)
- <sup>2</sup> Based on Dakin's data
- <sup>3</sup> Based on IEA Emissions Factors
- <sup>4</sup> Based on Daikin's internal standards
- <sup>5</sup> Based on the European Commission's report of *Space and combustion heaters* Ecodesign and Energy Labelling
- <sup>6</sup> Based on the IPCC Fourth Assessment Report
- <sup>7</sup> Calculated as 0% (Daikin also calculates emissions as 0%)

### Example of Approach to Calculating Reduction Contribution

Daikin calculates its contribution to reduction through the spread of refrigeration and air conditioning equipment and space and water heaters with lower emissions using the following three products

We are currently in the process of establishing the rules for the calculation of the figures, and therefore strive to calculate conservatively. For example, units sold reflect only the amount of increase from the base year (2019) and take into account only countries and regions where the market penetration rate of the target products is less than 50% as of the base year.

#### Contribution through the spread of energy efficient equipment

Contribute to reduction of emissions during usage in the market by spreading inverter air conditioners which have higher efficiency than non-inverter models.

- Baseline: Emissions during use of non-inverter air conditioners
- Target: Emissions during use of inverter air conditioners
- Calculation formula: (power consumption per year per unit of non-inverter air conditioner<sup>2</sup> –power consumption per year per unit of inverter air conditioner<sup>2</sup>)×electricity emission factor<sup>3</sup>× product lifespan<sup>4</sup>× units sold<sup>2</sup>

#### Contribution through the spread of heat pump space and water heater

Contribute to reduction of emissions during usage in the market through the spread of heat pump space and water heaters by switching from combustion heating to electrical heating.

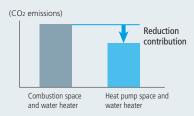
- Baseline: Emissions during use of combustion heating
- Target: Emissions during use of heat pump heating
- Calculation formula: (gas consumption/year per unit of combustion space and water heater<sup>2</sup>×gas emission factor<sup>5</sup> – power consumption/year per unit of heat pump space and water heater<sup>2</sup>×electricity emission factor<sup>3</sup>)×product lifespan<sup>4</sup>×units sold<sup>2</sup>

#### Contribution through the spread of air conditioners using low GWP refrigerants

The spread of air conditioners using R-32 refrigerant which has a lower global warming potential (GWP) than the conventional R-410A refrigerant has contributed to reduced emissions during disposal in the market.

- Baseline: emissions of air conditioners using R-410A upon final disposal
- Targets: air conditioners using R-32
- Calculation formula: (GWP of R-410A<sup>6</sup> GWP of R-32<sup>6</sup>)×charge amount per unit of air conditioner<sup>2</sup>×(1 recovery rate<sup>7</sup>)×units sold<sup>2</sup>







Feature

#### **Response to Climate Change**

# Power Consumption Reductions during Product Use

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# **Basic Policy**

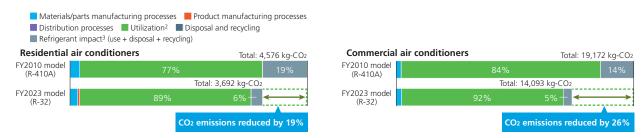
Daikin makes it its mission to reduce energy consumption in order to provide people with safe and comfortable air and contribute to reducing global warming. To this end, we conduct quantitative environmental assessments for each product life cycle in order to develop products and services that use minimal electricity and to combine these in order to optimize the overall energy consumption of buildings.

# Life Cycle Assessment

We assess global warming impact of air conditioners using the life cycle assessment (LCA) method, which allows us to determine the environmental impact at each stage of a product's life cycle.

In the life cycle of an air conditioner, the majority of the greenhouse gas that is emitted occurs from consumption of electricity during the product use stage, and refrigerants also represent a substantial impact. In addition to incorporating inverter technology to reduce power consumption, we have been promoting the use of R-32. As a result, in fiscal 2023, we reduced CO<sub>2</sub> emissions from residential air conditioners by 19% and from commercial air conditioners by 26% compared to life cycle CO2 emissions of fiscal 2010.

#### Example of LCA: Comparison of CO<sub>2</sub> Emissions over Product Lifecycle



<sup>&</sup>lt;sup>1</sup> Based on Daikin standards for 2.8-kW class residential air conditioners and 14-kW class commercial air conditioners.

<sup>&</sup>lt;sup>2</sup> The seasonal power consumption is calculated in accordance with the standard of the Japanese Industrial Standards (JIS) for residential air conditioners and the Japan Refrigeration and Air Conditioning Industries Association for commercial air conditioners.

<sup>&</sup>lt;sup>3</sup> Refrigerant impact is calculated by obtaining the global warming potential per unit of weight, while factoring in the average leakage rate during the product use, disposal, and recycling stages

## Improving Annual Performance Factor (APF) and Integrated Part Load Value (IPLV)

In the life cycle of an air conditioner, the majority of the CO<sub>2</sub> that is emitted occurs during product use. Daikin has set strict criteria for energy efficiency in the product use stage in order to improve the energy efficiency of products. Daikin is working to increase annual performance factor (APF)<sup>1</sup> and integrated part load value (IPLV),<sup>2</sup> which are used as indicators of energy efficiency. Among our top models in fiscal 2023, residential air conditioner 7.0 and commercial air conditioner 8.0 saw their APF increase

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- <sup>1</sup> The APF represents heating and cooling capacity per kWh over one year of use of an air conditioner under specific conditions. The higher the APF, the better the air conditioner's energy efficiency.
- <sup>2</sup> The IPLV is an energy efficiency indicator obtained by calculating the weighted average of cooling COPs at four different capacities of machine operation. It corresponds to the APF of a packaged air conditioner. The higher the value, the better the actual energy efficiency of a product.

## Promoting the Use of Inverter Products

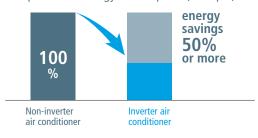
To reduce global warming worldwide, it is crucial to spread the use of highly energy efficient products to all countries. Inverter technology has already been established in Japan and Europe, and Daikin is promoting the spread of inverter air conditioners around the world because they can immediately contribute to energy savings.

## **Explanation of Terms**

## Inverter Technology

Inverters are frequency conversion devices that control electrical voltage, current, and frequency. Inverters precisely control the compressor motor, the heart of an air conditioner. Furthermore, in addition to having modified conventional motors and heat exchangers, inverter air conditioners reduce by 50% or more less energy usage than non-inverter models.\*

#### Comparison of energy consumption (example)



<sup>\*</sup> Calculated based on Daikin's demonstration testing

## Spreading the Use of Inverter Products Worldwide

To promote the spread of inverter products in homes, Daikin has been supplying high efficiency and low cost inverter products through a partnership with China's largest air conditioner manufacturer since 2008. In fiscal 2014, we developed an inverter air conditioner at a relatively low price especially for the Asian cooling-only air conditioner market.

We have also worked to develop a mechanism for evaluating the energy efficiency performance of inverter products. To ensure this performance is measured properly, we worked alongside Japan's air conditioning industry to propose the adoption of seasonal energy efficiency ratio (SEER) as an indicator. This approach has been used in ISO standards since 2013. In emerging countries, the use of SEER is starting to spread. Daikin is also working with governments and industry groups in Asia, Latin America, the Middle East, Africa, and other areas to introduce indicators and standards as well as create energy labelling systems as part of support for creating evaluation standards.

Daikin exhibited a booth at the Japan Pavilion at the COP28 to the United Nations Framework Convention on Climate Change (UNFCCC) held in 2023 to promote the effectiveness of inverter technology.

#### Inverter Products as Percentage of All Residential Air Conditioners Worldwide (FY2024)

Market	2022	2023	2024
Japan	100.0%	100.0%	100.0%
EU	100.0%	100.0%	100.0%
Australia	100.0%	100.0%	100.0%
China	97.1%	97.8%	98.5%
India	70.0%	76.0%	81.0%
Brazil	55.0%	65.0%	75.0%
Saudi Arabia	20.0%	24.0%	28.0%

Source: BSRIA World Air Conditioning Overview 2024

Note: The percentage in this report refers to the number of units sold in a given year

## 026 Feature Environment Promoting the Spread of Energy Saving Technology

🖶 Feature of Fiscal 2020: Environment—Creating Standards for a Decarbonized Society Alongside Stakeholders

https://www.daikin.com/-/media/Project/Daikin/daikin\_com/csr/pdf/feature2020/env-pdf.pdf

## **Providing Solutions**

Driven by its core inverter and refrigerant technologies, Daikin's air conditioners help control environmental impact, and not just through individual air conditioners but also via building-wide energy solutions. Through optimal energy management and demand response measures, we are contributing to solving energy-related issues and creating sustainable cities.

#### Proposing Net Zero Energy Buildings (ZEBs)

Daikin is promoting the spread of net zero energy buildings (ZEBs). A ZEB is a building that achieves a balance between comfort and energy saving performance—at least 50% greater than standards. 1 There are three categories: ZEB,

Nearly ZEB,<sup>2</sup> and ZEB Ready<sup>3</sup> depending on the energy efficiency rate. Normally, ZEB requires improving the performance of a building's outer layer, using passive energy, incorporating high-efficiency equipment, and using advanced control. Daikin has accumulated knowledge and advanced technology on LED lighting control as well as air conditioners and ventilation systems and their controls. It is possible to achieve ZEB using our unique system that is versatile and popular for application in existing small- and medium-sized buildings with high energy-saving potential, as well as newer buildings.

Daikin Industries, Ltd. registered as a ZEB planner<sup>4</sup> in 2017 and based on its track record of making its own facilities into ZEBs. Since then, we have been working with general contractors to promote ZEB in Japan and overseas. At the preliminary stage of ZEB reviews, we are promoting

#### Results of ZEB related activities by Daikin

Time	Details	
2015	<ul> <li>Completed ZEB conversion for new, large-scale building at our Technology Innovation Center (TIC)</li> <li>CASBEE certification in the S class, LEED® Platinum certification</li> </ul>	
2017	Daikin Industries, Ltd. registered as a ZEB planner	
2018	• The Fukuoka Building of Daikin Industries, Ltd. received ZEB Ready Distinction Received the Director-General Prize of Agency for Natural Resources and Energy in the energy conservation best practices category at the fiscal 2018 Energy Conservation Grand Prize, Energy Conservation Category for an existing small- and medium-sized building	
2019	<ul> <li>A building owned by Anabuki Kosan Inc., for which Daikin provided consulting services, received ZEB Ready Distinction Received the Chairman Prize of Energy Conservation Center, Japan, at the fiscal 2020 Energy Conservation Grand Prize, Energy Conservation Case Category for being the first in Japan to obtain ZEB Ready for a tenanted building</li> </ul>	
2020	• Esaka Building owned by Daikin Industries, Ltd. received ZEB Ready Distinction In addition to energy conservation, the building received a high score for its health considerations and rank A in the CASBEE-Wellness Office certification	
2022	<ul> <li>Daikin HVAC Solution Co., Ltd. (all 10 companies in the Group), which has a network of domestic sales offices, registered as a ZEB planner</li> <li>The Omiya Office of Daikin HVAC Solution Tokyo Co., Ltd. was recognized as ZEB Ready</li> <li>Chiba Service Station received Nearly ZEB Distinction</li> </ul>	
2023	<ul> <li>Kawagoe Service Station received Nearly ZEB Distinction</li> <li>The Okayama Branch of Daikin HVAC Solutions Chushikoku Co., Ltd. received ZEB Ready Distinction</li> <li>The headquarters of Daikin HVAC Solutions Tohoku Co., Ltd. received ZEB Ready Distinction</li> <li>The Saga Sales Office of Daikin HVAC Solutions Kyushu Co., Ltd. received ZEB Ready Distinction</li> </ul>	

#### consulting-like service to educate and diagnose the feasibility of achievement.

- <sup>1</sup> Standard value: Energy consumption value of common buildings of the same size (reference building).
- <sup>2</sup> A building that consumes at least 75% less energy compared to normal building energy standards.
- <sup>3</sup> A building that consumes at least 50% less energy compared to normal building energy standards.
- <sup>4</sup> A business operator that accepts consultations, provides various business support, and discloses information on activities related to ZEB conversion. The registration system is based on application submission to the Sustainable Open Innovation Initiative.
- Proposals for carbon neutrality (decarbonized society) ZEB (net zero energy building) (available in Japanese only)

https://www.ac.daikin.co.jp/zeb

#### City-Wide Optimal Energy Management

Daikin is using its technologies in air conditioning, heating and hot water supply to provide energy saving solutions for entire communities in order to resolve energy issues and contribute to sustainable urban development.

In Europe, since first participating in the Smart Communities Project in Greater Manchester, UK, in fiscal 2014, we have gone on to be involved with a decarbonization verification project for home heating in Lisbon, Portugal, along with the Innovation Ecosystem project for the redevelopment of the former site of Expo Milano in Italy, and a smart city demonstration project for renovating detached houses in Genk, Belgium. In Asia, since fiscal 2020, we have been participating in a project for building a district-level centralized cooling system to optimize control for the entire Tengah Town being developed by the Government of Singapore.



Conceptual image of Tengah Town, a smart city in Singapore (planned completion at the end of 2025)

# Environmentally Conscious Products and Services

Daikin will contribute to solving global environmental and energy problems through the spread of its environmentally conscious products and services while providing a healthy and comfortable air environment, as well as contribute to achieving a carbon neutral society.

# Environmentally Conscious Product Sales Unit Ratio

In order to mitigate the global warming impact of its air conditioners, Daikin defines its environmentally conscious products\* as Super Green Products and Green Products, developing and spreading the use of these products.

In fiscal 2023, environmentally conscious products accounted for 99% of residential air conditioner units sold.

- \* A generic term that refers to Super Green Products and Green Products.

  Air conditioners that meet all of the following conditions are considered Super Green Products, and air conditioners that meet at least one of the following conditions are considered Green Products.
- Consume at least 30% less electricity than conventional products, e.g., air conditioners equipped with inverters
- Use refrigerants with at least two-thirds less global warming potential than conventional refrigerants, e.g., air conditioners using R-32, a refrigerant with low global warming potential

See below for the environmentally conscious products sales unit ratio (residential air conditioners)

147 Data ESG Data Environment Mitigating
Environmental Impacts in the Value Chain

# Air Conditioning Products and Services for Japan

Introduction

#### **Urusara X Energy Efficient Residential Air Conditioners**

The Urusara X of energy efficient residential air conditioners released in 2020 are residential air conditioners capable of heating and cooling while ventilating. In addition to the existing function of providing air supply, ventilation is added as a new feature that can be switched on according to need. By adding functions such as a new high-efficiency dehumidification and control of the upper limit current, this model further improves energy savings and comfort. The 2024 model features a new function that automatically saves power when the room temperature stabilizes.



Urusara X

Contents

Residential air conditioner R series Urusara X (available in Japanese only)

https://www.ac.daikin.co.jp/roomaircon/products/r\_series

# FIVE STAR ZEAs Series of Air Conditioners for Shops and Offices

The SkyAir series of air conditioners for shops and offices uses R-32 refrigerant with low global warming potential and reduces energy consumption during operation. FIVE STAR ZEAS, which was released in October 2023, has the industry's best-in-class<sup>1</sup> year-round energy consumption efficiency (annual performance factor: APF), reducing power consumption by up to approximately 63%<sup>2</sup> compared to inverter models from 15 years ago.

☐ Commercial air conditioners SkyAir series FIVE STAR ZEAS (available in Japanese only)

https://www.ac.daikin.co.jp/shopoffice/products/fivestarzeas



FIVE STAR ZEAS

### ZEAS Connect—Commercial Air Conditioner Subscription Service

Since May 2022, Daikin has been offering ZEAS Connect, a flat-rate subscription service for commercial air conditioners. The service provides commercial air conditioners SkyAir or machi Multi on a monthly subscription basis. By supporting stable daily operation, this service makes it possible to reduce wasteful power consumption.

ZEAS Connect—commercial air conditioner subscription service (available in Japanese only)

https://www.ac.daikin.co.jp/shopoffice/zeas connect

#### Ene Focus $\alpha$ , Automatic Operating Control Service Provides Continuous Support for Energy Conservation through Remote Monitoring

Released in December 2020, Ene Focus  $\alpha$ , is a remote online monitoring service for air conditioners that enables customers to continuously achieve energy conservation in their air conditioner use through regular suggestions based on the remote monitoring data that suit each user. The controller and software needed for energy-saving operation are provided as a subscription service, which eliminates the initial start-up cost and installation cost, while continuously achieving energy savings.

 $\square$  Energy management service Ene Focus  $\alpha$  (available in Japanese only)

https://www.daikincc.com/fcs/service/ene\_focus\_a/

<sup>&</sup>lt;sup>1</sup> Daikin research as of August 1, 2023

<sup>&</sup>lt;sup>2</sup> Estimated by Daikin: Comparison between Daikin's inverter product (SYCP112AB, launched in 2008) and the new model (SSRC112C)

#### Fluorochemical Products

#### Fluorine Materials Help to Mitigate Environmental Impacts in a Range of Areas

Daikin proposes materials that contribute not only to performance but also to improved functions of components and modules. Fluorine mainly bonds with carbon atoms to form compounds that are highly stable with the ability to resist heat and repel chemicals and that offer unique qualities such as smoothness and electrical characteristics. Daikin engages in R&D of products that capitalize on the characteristics of fluorine in a variety of fields, thereby contributing to the reduction of environmental impact and environmental conservation.

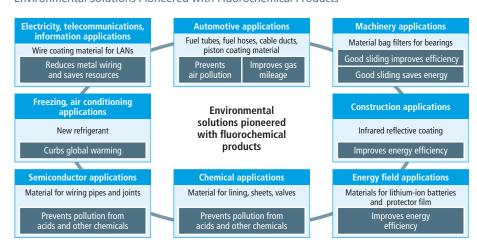
Contents

Introduction

Daikin's Solutions (available in Japanese only)

https://www.daikinchemicals.com/jp/solutions.html

#### **Environmental Solutions Pioneered with Fluorochemical Products**



#### Helping Improve the Performance of Lithium-Ion Batteries

Lithium-ion batteries are attracting attention as a renewable energy storage system that is indispensable for achieving carbon neutrality. Daikin supplies gasket and binder materials that utilize the characteristics of fluorine for use in lithium-ion batteries, helping to increase their capacity.

## Oil Hydraulic Equipment

#### **EcoRich Energy-Efficient Hydraulic Unit**

Hydraulic units are incorporated into factory production lines. EcoRich was developed in 1999 and was the world's first product to combine hydraulics technology and air conditioner motor inverter technology. Later, in 2016, the product underwent a model change. Among its many features were a 30% decrease in energy consumption over the previous model. In addition, we have also been selling 400 V transformerless models capable of direct power connection since 2018.

#### **Energy-Efficient Hydraulic Super Unit**

Super Unit automatically controls the rotation speed of the pump according to the operating conditions to achieve energy savings during pressure holing mode and standby. These units are used in a wide range of industrial machinery, where they contribute greatly to energy saving and CO<sub>2</sub> reduction in factories.

#### Oil Cooling Units

In machine tools, Daikin's Oil Cooling Unit makes possible detailed temperature control of the lubricating and cooling oil, which has a major effect on the precision of the work. Daikin's 9 Series Oil Cooling Unit allows temperature adjustment to ±0.1°C, offering 45% greater energy efficiency than conventional on/off controllers. Since 2020, we have been selling the 10 series, which is smaller and lighter weight. We have also developed water-cooled oil conditioners and filters that extend the life of our products, which allows us to gradually expand our lineup.

Daikin's Hydraulic Equipment

https://www.hyd.daikin.com/

### **Response to Climate Change**

# Promoting the Use of Heat Pump Space and Water Heaters

Introduction

Contents

# **Basic Policy**

In recent years, growing environmental awareness has led to the spread of highly energy-efficient space and water heaters. In Europe in particular, which has a relatively cold climate, space and water heaters account for more than 80% of household energy consumption, thus there is an ongoing shift from conventional combustion-heat source equipment to heat pump heating that emits less CO2.

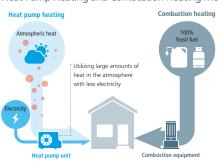
Daikin is engaged in the development and promotion of water heaters and space heaters using highly energyefficient heat pump technology while striving to increase comfort and reduce CO2 emissions.

## **Explanation of Terms**

## Heat Pump Technology

The heat pump system is a technology that cools the air and heats water by extracting the heat stored in the air. Compared to carrying out space and water heating using methods in which fossil fuels such as gas, oil, and coal are directly burned, heat pump systems greatly reduce CO<sub>2</sub> emissions.

#### Heat Pump Heating and Combustion Heating Mechanisms



## Initiatives to Promote the Spread of Heat Pumps

## Bringing More CO<sub>2</sub>-Reducing Heat Pump Space and Water Heaters to the European Market

Daikin is engaged in the development and promotion of water heaters and space heaters using energy-efficient heat pump technology.

Policies on the use of renewable energy have been promoted in Europe since the late 1990s. In January 2009, the heat pump was recognized in the EU as technology that captures renewable energy and heat pump heaters are being recommended as part of this target. In Europe, which uses a particularly large amount of heating, decarbonization efforts are accelerating with the European Green Deal of 2019. The market is expected to grow amid efforts for achieving the EU's goal of carbon neutrality by 2050.

Daikin released Daikin Altherma, a heat pump space and water heater, in Europe in 2006. Since then, we have steadily expanded the product lineup based on the climate and needs of every European country. Moreover, as a leader in the European market, we are working with local governments and vocational schools to develop human resources for service operations such as installation and maintenance, with the aim of further spreading heat pump space and water heaters.

#### Product Lineup of Heat Pump Space and Water Heaters in Europe

Time	Details of activities	
2006	Launch of Daikin Altherma heat pump space and water heater in the European market	
2013	Began technical examination at Daikin Asahikawa Laboratory (Asahikawa, Hokkaido) to develop a system adaptable to cold climates worldwide	
2014	Sales of hybrid products combining heat pumps and boilers for extremely cold regions	
2018	First in the industry to release models using R-32, a refrigerant with low global warming impact	
2019	Development of an R-32 geothermal heat source type suited to cold regions	
2020	Released Daikin Altherma 3H HT, an R-32 high temperature discharge type that can replace oil-fired boilers in existing building markets	



Daikin Altherma heat pump space and water heater for the European market

Contents

# Increase Proposals of Heat Pump Space and Water Heaters in the North American Market

In North America, mainstream air conditioners are the ducted type, which has ducts that run through the ceilings and sends air to an entire building from an indoor unit. The majority use gas combustion as the heat source, while the ratio of heat pumps in the market is about 30%. Amidst this background, in 2021, the US government announced an environmental policy that aims to achieve net-zero greenhouse gas emissions. In August 2022, the United States enacted the Inflation Reduction Act (IRA), providing tax credits and rebates to consumers who purchase heat pumps to electrify their home instead of space and water heating with gas and oil. Heat pumps account for an increasing proportion of air conditioner shipments in the United States, representing a huge opportunity to spread the use of heat pumps.

To meet this demand, Daikin will focus its efforts on proposing and promoting products using heat pumps. We have initiated activities to promote understanding of heat pumps on the West Coast and in Northeastern states that are environmentally advanced.



The Daikin FIT Heat Pump, a residential heat pump for the unitary market sold in North America

igspace Heat Pump (available only in Japanese)

https://www.daikin.co.jp/air/technology/our-technology/heatpump

Feature of Fiscal 2022: Environment—Contributing to a Carbon-Neutral Society by Promoting Heat Pump Heating

https://www.daikin.com/-/media/Project/Daikin/daikin\_com/csr/new/pdf/feature2022/env-pdf.pdf

# Promoting Residential Water Heaters and Floor Heaters in Japan

In Japan, water heaters account for about 30% of all residential electricity consumption, thus there is a need to switch over to systems with minimal environmental impact to control global warming.

Daikin's heat pump technology is incorporated into ECOCUTE heat pump water heaters and Hot Eco-Floor heat pump hot-water floor heaters. We have continued to update models to improve energy savings, such as by incorporating the ability to communicate with a home energy management system (HEMS), and promoting the use of renewable energy. On the other hand, we have commercialized heat pump units for replacement use that can be partially upgraded.

In fiscal 2021, we increased the capacity of the heat exchanger on the outdoor units of household ECOCUTE models, which improved the annual performance factor (APF) by 0.2 to 0.3 points compared to conventional models. Moreover, in February 2022, we launched "Ohisama ECOCUTE," the household heat pump water heater that boils water during daytime using excess solar power. On occasion of the fiscal 2022 model changeover, we added a UVC-LED disinfection function and weather forecast-linked self-run function as new features given the rising demand for disinfection resulting from the COVID-19 pandemic and trend toward carbon neutrality.

In fiscal 2023, we launched "Hot Eco Floor" in February 2024, which improves energy efficiency and comfort by changing the water flow temperature according to a home's energy saving performance and the purpose of replacement.

# Promoting Highly Energy-efficient Products Including MEGA-Q Large-Scale Heat Pump

In Japan, we are marketing space and water heaters for the commercial market as well using highly energy efficient heat pump technology. For example, we began selling a new model of the commercial heat pump water heating system (MEGA-Q) for large-scale facilities such as hotels and welfare facilities.

MEGA-Q large-scale commercial heat pump hot water supply system (available in Japanese only)

https://www.ac.daikin.co.jp/waterheater/megaq

#### **Topics**

### Daikin's JIZAI HEAT, an Industrial High-Temperature Water-Output Heat Pump Chiller, Receives Energy Conservation Award

JIZAI HEAT is a circulating heating heat pump that supplies high-temperature water up to 80°C to factory production processes. It can be used for processes such as drying, heating, concentrated distillation. By replacing combustion-type steam boilers and hot water heaters with this product, CO<sub>2</sub> emissions and fuel costs can be significantly reduced. After introducing the system to the coating line at our own factory, we were able to reduce annual CO<sub>2</sub> emissions by approximately 86%.\*

This product received the Energy Conservation Center Chairman's Award in the Product & Business Model Category in the Energy Conservation Grand Prize 2023.



\* Estimated annual CO<sub>2</sub> emissions and running costs based on measured data from November 2022 to March 31, 2023.

☐ JIZAI HEAT circulating heating heat pump (heating model) (available in Japanese only)

JIZAI HEAT

https://www.ac.daikin.co.jp/central/ chiller/jizai heat

### **Response to Climate Change**

# Reducing the Environmental Impacts of Refrigerants

Contents

# Approach to the Environmental Impacts of Refrigerants

### Working Toward Practical Application of Diversity of **Next-Generation Refrigerants**

The refrigerant conveys the heat between the indoor unit and the outdoor unit of air conditioners. Although HFC, the most widely used refrigerant in developed countries, has zero ozone depletion potential, it contributes to global warming if released into the atmosphere.

Daikin is accelerating the practical use of air conditioners that use refrigerants with as little impact as possible on global warming. In the selection of refrigerants, we focus not only on their direct effect on global warming but also on their effects throughout the life cycle, including energy efficiency during air conditioner use. We make decisions based on all contributing factors; besides the environmental impact of the refrigerant itself, we conduct life cycle assessments of products that look at safety factors such as flammability and toxicity, the cost and availability of the refrigerant, and the expense of producing air conditioners that use the refrigerant.

#### Daikin's View: Evaluation Index of Refrigerant Selection (common for all applications)



### Choosing the Best Balanced Refrigerant for Each Application to Mitigate **Environmental Impact**

Different characteristics are required of refrigerants, depending on whether they are used in, for example, residential or commercial air conditioners, water and space heaters, or refrigeration equipment. That is why we have spent years conducting research that will enable the selection of refrigerant that is ideal for each application. We have so far conducted research on all types of next-generation refrigerants such as natural refrigerants and HFC and HFO refrigerants, and have considered their application in products.

Using the knowledge we have built up, we are providing information worldwide at events such as international conferences, academic conferences, and exhibitions, as well as through research paper presentations, on the global warming impact of refrigerants and measures against it.

#### Daikin's Refrigerant Direction

Residential	Commercial, Industrial		
Residential Air Conditioners and Heat Pumps	VRF Systems	Refrigeration Systems	
R-32	R-32	R-32, R-407H, HFOs, HFO blends, CO <sub>2</sub> , Hydrocarbon, etc.	
Residential Hot Water Supply Systems	Commercial Air Conditioners and Heat Pumps	Chillers and Heat Pumps	
R-32, CO <sub>2</sub>	R-32	R-32, R-1234ze(E), R-1233zd(E), Other HFOs, HFO blends	

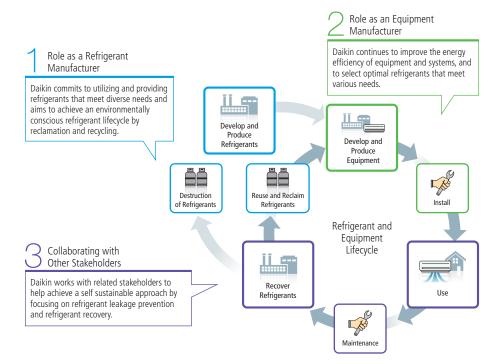
# Focusing on Converting to Alternative Refrigerants and Recovering Fluorocarbons

HCFCs used to be the most commonly used refrigerant, but in the 1980s experts suspected it was depleting the ozone layer, so under the Montreal Protocol, developed nations agreed to phase out its production in developed countries by 2020. Daikin has for years worked to mitigate ozone layer destruction by developing alternative refrigerants. In 1991, we began the first mass-production of HFC in Japan, a refrigerant with zero ozone depletion potential. We developed and began selling air conditioners that use HFC as the refrigerant in 1995.

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Introduction

#### Daikin's Action on Refrigerant and Goals



### Kigali Amendment

In 2016, at the 28th Meeting of the Parties to the Montreal Protocol, members voted to phase down the CO<sub>2</sub> equivalent total of HFCs, which have a high global warming potential (GWP). This decision is called the Kigali Amendment, named after the city of Kigali where the conference was held. The Amendment came into effect on January 1, 2019.

A major point of the Kigali Amendment is that it is not meant to phase out HCFCs based on their ozone depletion potential (ODP) but rather phase down the production and consumption of HFCs based on their GWP value. The amount of HFC will not be restricted but rather reduced in terms of total GWP of CO2 equivalent (weight of HFC in Kg x GWP value). By using lower GWP HFCs, it is possible to maintain or increase the use amount of HFC itself while reducing the overall global warming impact. In enacting the Kigali Amendment, developed countries are implementing reductions based on the common phasedown schedule starting in 2019. The Amendment divides developing countries into two groups, which plan to implement reductions individually.

Upon the introduction of new refrigerants, the Amendment requires an increase in efficiency of air conditioners in addition to a phasing down of HFCs in terms of total GWP. Daikin is pursuing the following measures in response to the Kigali Amendment.

- 1. Daikin welcomes the Kigali Agreement for an HFC phase down in CO<sub>2</sub> equivalent under the Montreal Protocol.
- 2. The main tenet of Daikin's policy is "diversity of refrigerants." And there is no ideal "one-size-fits-all" refrigerant solution for all applications. In the selection of refrigerants, we need to evaluate global warming impacts of refrigerants for each equipment comprehensively such as not only the ODP and GWP value but also safety, energy efficiency, cost-effectiveness, environmental impact, recyclability, and recoverability.
- 3. Daikin has identified R-32 as a very beneficial refrigerant for single and multi-split air conditioners, packaged air conditioners and heat pumps. Daikin believes that the transition to R-32 will help to meet both the HFC phase down schedule and the HCFC phase out schedule. Daikin is now in the process of researching suitable refrigerants for other applications.
- 4. To mitigate future global climate change, it is important to take a "Sooner the Better" approach. Early implementation is a key to the further reduction of future impact. As soon as the most balanced and feasible solution for an application is found, Daikin will commercialize and disseminate the technology to contribute to the efforts to mitigate global climate change.
- 5. Also, while taking a "Sooner the Better" approach, as a refrigerant manufacturer, Daikin will continue to seek the "optimal refrigerant" for every type of application for further mitigation of global climate change.

Daikin Group Sustainability Report 2024

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# Protecting the Ozone Layer and Mitigating Global Warming

# Reducing Environmental Impact of Refrigerants throughout the Entire Life Cycle

The fluorocarbons used as refrigerants in air conditioners have a global warming impact that is several hundred to several thousand times greater than that of CO<sub>2</sub>.

Daikin is the only comprehensive air conditioner manufacturer developing both refrigerants and air conditioners and engaging in the recovery, recycle, reclamation and destruction of refrigerants. In addition to disseminating lower-global-warming-impact refrigerants worldwide, we strictly manage refrigerants during production and after-sales, and we recover, reclaim, and destroy refrigerants at the end of air conditioner life so that we can mitigate environmental impacts throughout the entire life cycle.

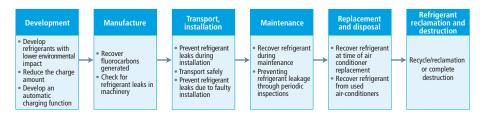
At all worldwide manufacturing bases, we recover and destroy refrigerants placed in air conditioners during testing and other processes. We ensure thorough recovery of refrigerants by making sure to recover the refrigerant before conducting any service work at the time of air conditioner repair and replacement, as well as strive to improve our technique in air conditioner installation to prevent refrigerant leakage during product use.

Moreover, we are conducting R&D for improving the accuracy of leak detection in order to minimize refrigerant leakages. In November 2023, we jointly developed the world's first laser technology for the remote detection of R-32 refrigerant leaks in collaboration with Tokyo Gas Engineering Solutions Corporation and RIKEN National Research and Development Aency.

☐ World's First Laser Technology for Remote Detection of R-32 Refrigerant Leaks https://www.daikin.com/press/2023/20231115

055 Environment Circular Economy Building a Refrigerant Eco-Cycle

#### Efforts to Prevent Environmental Impact of Fluorocarbon Emissions



# Development and Spread of Refrigerants with Lower Global Warming Potential

#### Promoting the Use of R-32, a Refrigerant with Lower Global Warming Potential

In November 2012, Daikin became the first company in the world to launch residential air conditioners using R-32 (HFC) for the Japanese market; R-32 has just one-third the global warming potential of conventional R-410A (HFC) refrigerant. Since then, we have been expanding these R-32 air conditioners in other countries.

To encourage the adoption of R-32 globally and to help mitigate global warming, Daikin began offering patents related to the manufacture and sales of air conditioners that use R-32 free of charge to companies worldwide.

In addition, Daikin provides technical support in emerging countries by cooperating with governments and international organizations. We provide information and technical support on the impact and countermeasures in relation to refrigerants and global warming. For example, in India, Thailand, and Malaysia, we held seminars for government officials and local industry groups to promote understanding of R-32, and training for local air-conditioning installation and service technicians on the appropriate handling of R-32. In Mexico and Brazil, Daikin was commissioned by the Japan International Cooperation Agency (JICA) to implement projects to spread the use of air conditioners with R-32 refrigerant.

As a result, Daikin has sold more than 49 million R-32 air conditioners in over 130 countries. It is estimated that, including the products of other companies, the worldwide R-32 air conditioner market exceeds 280 million units, whose contribution to CO<sub>2</sub> emissions reduction is estimated at 450 million tons (calculated by Daikin as of December 2023).

Cumulative Total of R-32 Air Conditioners Sold by Daikin (As of December 2023)

Over 49 million air conditioners sold in more than 130 countries worldwide

(Approx. 18 million in Japan and 31 million overseas)



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#### **Refrigeration Products using Natural Refrigerants**

In the refrigeration divisions, Daikin supplies specialized air conditioners that can control temperature according to highly detailed requirements, such as for marine containers, production lines at food factories, cold storage warehouses, and display cases for retail stores. Refrigeration products that support the global cold chain from production area to consumer area require the right refrigerant for the right product because of the wide range of applications and temperature ranges.

Daikin began selling a freezing display case that uses R-290 with a global warming potential of 3 in 2019. Since 2020, we have been promoting the use of natural refrigerants mainly in Europe, symbolized by the adoption of CO<sub>2</sub> with a global warming potential of 1 in the Conveni-Pack, an integrated system that performs refrigeration, air conditioning, and heating all in a single unit.

## **Initiatives During Production** Fluorocarbon Recovery Equipment Ensures Proper **Destruction of Refrigerants**

The fluorocarbons emitted in the production processes of the chemicals divisions are raw materials and by-products in the production of fluorochemical products. We have been installing recovery equipment on production lines and properly destroying the fluorocarbon gases recovered. We also take the fluorite generated during the destruction process and reuse it as raw material for the production of fluorochemical products.

In fiscal 2022, we began full-scale operation of a new incinerator at the Kashima Plant, increasing our fluorocarbon destruction capacity by around 20,000 tons-CO<sub>2</sub> compared to the previous fiscal year. In fiscal 2023, we completed the construction of a recovery and reclamation facility at the Yodogawa Plant, and obtained recycling licenses from the Ministry of Economy, Trade and Industry and the Ministry of the Environment. We began reclamation of R-410A and R-32 refrigerants in December 2023. Our overseas plants are also working to increase the recovery of PFC-C318, which we recover and destroy using the equipment in each plant or at a contractor.

### **Ensuring Refrigerant Leakage Prevention when Charging it into Air Conditioners**

During the air conditioner manufacturing process at our worldwide manufacturing bases, we do everything possible to prevent refrigerants leakage during charging. Based on the work manual, certified workers thoroughly inspect for refrigerant leaks three times in the process. We also provide training for workers every year. Additionally, we take measures against leakage from equipment such as refrigerating machines used for research and development.

In fiscal 2023, we added a mechanism to recover the refrigerant from inside the charging appliance in the refrigerant charging and pinch piping processes during production. This significantly reins in the atmospheric emission of refrigerant from this process, lowering the greenhouse gas emissions of production lines for multisplit type air conditioner for commercial buildings by approximately 1,000 tons per year.

#### Main Initiatives for Reducing Emissions

- We inspect all pipes for leakage before charging refrigerants and make improvements to pipe couplers (joints).
- If operation inspections show that a product must be fixed, we do so after recovering all the refrigerant from it.
- We take every precaution possible during refrigerant charging to prevent refrigerant from being released into the atmosphere.
- We are converting to lower global warming potential refrigerants.
- We introduced charging machines that largely control emissions during charging.



Recovering refrigerant

## Efforts during Installation, Use and Repair **Helping Customers Prevent Refrigerant Leakage**

Since April 2015, Japan has strict, mandatory guidelines on managing refrigerant leakages in place for users and managers of commercial air conditioners under the Act on Rational Use and Proper Management of Fluorocarbons. In response, in October 2015, we began offering the cloudbased service "Daikin Fluorocarbon Check Tool (Dfct)" that can easily manage fluorocarbons.

Daikin's "Assisnet Service" can notify refrigerant leaks by e-mail through linkage with Dfct. This detection function was recognized as one method for simple statutory inspections in fiscal 2022. In fiscal 2023, we also linked Dfct to the AIRNET Service System.

Daikin Industries, Ltd. has operated and managed all equipment in-house using Dfct since fiscal 2018.

☐ Daikin Fluorocarbon Check Tool (Dfct) (available only in Japanese)

https://dfct.daikinaircon.com/

Assisnet Service (available in Japanese only)

https://www.daikincc.com/fcs/service/assisnet\_service/

☐ AIRNET Service System (available in Japanese only) https://www.daikincc.com/fcs/service/airnet/

#### Reliable Repair Work Starting with Refrigerant Recovery

The Daikin Group in Japan has deployed refrigerant recovery equipment at its service bases nationwide to prevent atmospheric emissions during repairs.

#### Efforts during Recovery, Recycle, Reclamation, and Destruction

See below for Daikin's efforts to recover, reclaim, and destroy refrigerants.

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#### **Response to Climate Change**

# Initiatives in Manufacturing (Development and Production) and Offices

Introduction

# **Basic Policy**

The proportion of greenhouse gases emitted from development and production processes and offices is small. Since we can control these emissions, we have set a target for zero emissions. In development and production processes, we will bring forward our targets from 2050 to achieve net-zero GHG emissions by 2030 at all plants except chemical plants, and at our offices of all global bases also by 2030.

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# Initiatives in Development and Production Processes

#### Initiatives for Net-Zero Greenhouse Gas Emissions

Based on the following approach, Daikin aims to achieve net-zero GHG emissions by 2030 at all of its plants, except chemical plants. We will implement thorough energy-saving measures, reduce HFCs/PFCs and energy-induced emissions, and develop new energy-saving technologies. We will also promote energy creation and the greater introduction of renewable energy, aiming for net-zero greenhouse gas emissions.

#### Initiatives to Reduce Greenhouse Gas Emissions at Plants

- Reduce HFC/PFC emissions in development and production processes
- Reduce energy-induced CO<sub>2</sub> emissions in development and production processes
- Develop new technologies for the conversion of combustion-type manufacturing facilities to industrial heat pump type or hydrogen-fuelled
- Expand the introduction of energy creation and renewable energy

#### **Topics**

## Achieved Net-Zero GHG Emissions at the Rinkai Factory

With the keywords of "visualize, reduce, and create," Daikin is advancing energy management at its plants. In fiscal 2023, we achieved net-zero GHG emissions at our Sakai Plant's Rinkai Factory. We are promoting measures to improve the energy efficiency of production facilities, improve air conditioning by controlling the temperature and supply and exhaust air of the entire plant, and reduce HFC emissions. Other actions include the installation of solar panels, the purchase of green electricity, and the use of credits to offset CO2 from fossil fuels and HFC emissions. In the future, we will roll out these initiatives to other plants.

### Reducing Greenhouse Gas Emissions

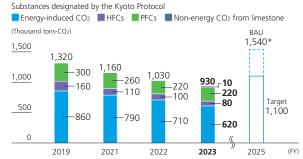
Daikin emits three kinds of greenhouse gases during development and production processes: CO2 from energy use, fluorocarbons, and non-energy CO<sub>2</sub> from limestone. We have set a goal for reducing greenhouse gas emissions during the product development and production processes in fiscal 2025 to 1.1 million tons-CO<sub>2</sub> (17% reduction in comparison to fiscal 2019).

In fiscal 2023, our greenhouse gas emissions totaled 0.93 million tons-CO<sub>2</sub> (30% reduction in comparison to fiscal 2019) after we expanded purchasing of renewable energy. With regard to fluorocarbons, we focused on reducing the atmospheric emissions of HFCs during refrigerant charging in the air conditioning divisions and PFCs used as solvents in the chemicals divisions.

167 Data Third-Party Verification Method of Calculating Greenhouse Gas Emissions Data

See below for greenhouse gas emissions-related data 149 Data ESG Data Environment Reducing **Environmental Impacts of Business Activities** 

#### **Greenhouse Gas Emissions** (during development and production)



\* Predicted values for fiscal 2021 and onward assuming no measures are taken. Note: In accordance with the revision of the Act on Promotion of Global Warming Countermeasures in April 2023, we have added non-energy CO2 emissions from limestone from fiscal 2023.

### Reducing Energy-Induced CO<sub>2</sub>

We are using IoT to visualize and reduce energy consumption, introduce high-efficiency equipment, install solar panels, and purchase green electricity at our bases around the world. Also, we have continued to take a systematic approach to reduce energy-induced CO<sub>2</sub> emissions by improving energy efficiency during development and production processes. As a result, in fiscal 2023. CO2 emissions totaled 0.62 million tons-CO<sub>2</sub>. In particular, we have made great progress with the installation of solar panels at our plants in China.

### Promoting Energy-Saving Measures through Technological Development

As one of the energy-saving measures at our production bases, we are also focusing on the development of energysaving technologies. We are developing new technologies, such as encouraging the switch to electrified products. such as to heat pumps from LP gas and electric heaters.

For example, JIZAI HEAT, an industrial hightemperature water-output heat pump chiller, can significantly reduce not only CO<sub>2</sub> emissions but also fuel costs by replacing conventional combustion-type steam boilers and hot water heaters. JIZAI HEAT won the Energy Conservation Center Chairman's Award at the Energy Conservation Grand Prize 2023.

JIZAI HEAT Receives the Energy Conservation Center Chairman's Award at the Energy Conservation Grand Prize 2023. (available in Japanese only)

https://www.daikin.co.ip/press/2023/20231218

## Using Renewable Energy

Daikin is working to expand the use of renewable energy such as solar, wind, and hydro powers with the target of increasing the rate of global renewable energy usage to 10% out of all energy consumption at Daikin's manufacturing bases in 2025.

Daikin's development and manufacturing bases in Japan and overseas, including at the Technology and Innovation Center (TIC), generated an annual total of 30,130 MWh of electricity through solar power generation in fiscal 2023, which is equivalent to CO<sub>2</sub> emission

reductions of around 17,000 tons-CO<sub>2</sub> (estimated by Daikin). In fiscal 2022, we initiated a plan to introduce solar power generation at all of our air-conditioning plants in China by 2025. We made significant progress toward this plan in fiscal 2023.



Daikin Compounding Italy S.p.A. introduced solar power generation system at its factory

## **Initiatives in Offices**

Introduction

Contents

Daikin aims to achieve net-zero GHG emissions at all of its bases around the world by 2030. In addition to reducing resource use and raising awareness through Green Heart Office activities, we are promoting energy conservation by converting buildings to ZEB and upgrading to high-efficiency equipment. We are also promoting energy creation through the introduction of solar power generation, degasification, switching company-owned vehicles to EVs, and conversion to non-fossil electricity.

See below for Daikin's track record in ZEB.

1040 Environment Response to Climate Change Power Consumption Reductions during Product Use

## **Green Building Certification**

Daikin has been busy working toward green building certification at its worldwide bases with facilities whose design, construction, and operation are in harmony with the environment and society. In fiscal 2016, the Technology and Innovation Center earned LEED® Platinum certification. It has also earned the highest certification (S class) in Comprehensive Assessment System for Built Environment Efficiency (CASBEE) (current Institute for Built Environment and Carbon Neutral for SDGs [IBECs]).

Daikin Vietnam's new office, which is scheduled to be completed in April 2025, plans to obtain LEED®, WELL, and Platinum certification by LOTUS, Vietnam's green building certification regime.

Daikin Australia's current office is certified by NABERS as five out of six stars.

## **Initiative in Logistics Processes**

We have set a goal to reduce CO<sub>2</sub> emissions in logistics processes (transportation, packaging and warehousing). In fiscal 2023, these emissions reduction totaled 1,285 tons-CO<sub>2</sub> compared to our target of 750 tons-CO<sub>2</sub>. We are now promoting expanded modal shift and switching transport methods from trucks to freight trains and ferries. In fiscal 2023, our modal shift transition rate stood at 23%.

In Japan, we increased transport by rail and ferry to the Tohoku, Kanto, and Kyushu regions. We have also commenced transport with small electric trucks in the Tokai region and hybrid trucks in the Tokyo metropolitan area. Overseas, we are implementing these emission initiatives to convert the effects of greater logistics efficiency into CO2. As a result, we have confirmed a reduction of approximately 1,180 tons-CO<sub>2</sub> emissions by shortening transportation distances due to the launch of a new plant in India and a reduction effect of approximately 85 tons-CO<sub>2</sub> emissions by starting the use of biofuel-based vessels (including offsets) for Europe.

Feature

# Initiatives for a Decarbonized Society

Contents

Introduction

## **Basic Policy**

Realizing a carbon-neutral society requires a multifaceted approach. Daikin will explore and commercialize technologies for decarbonization, such as renewable energy, direct recovery of CO<sub>2</sub> from the atmosphere, and the development of recycling-oriented systems.

## **Examples of Initiatives**

#### Creating Energy with Micro-hydroelectric Power Generation

Daikin proposes micro-hydroelectric power generation systems using its air conditioning and hydraulic machinery technologies.

Micro-hydroelectric power, which utilizes the energy of water flows that occur in rivers or waterways, can be installed in various locations closer to communities as long as there is a flow of water. Nevertheless, micro-hydroelectric power has yet to spread because of the high cost versus actual generation and the size of equipment.

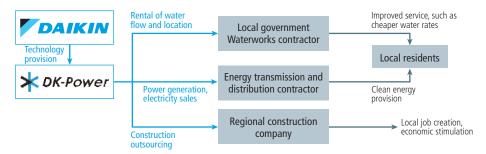
Daikin successfully developed a compact, low-cost pipeline-type micro-hydroelectric power generation system. The technology to convert water flows to electricity makes it possible to create energy without ever producing CO<sub>2</sub> during the power generation process. We commercialized this technology following three years of demonstration testing after government funding was approved in 2013 under the Low Carbon Technology, Research, Development and Demonstration Program of Japan's Ministry of the Environment (MOE). In June 2017, we established DK-Power Co., Ltd., which installs, manages, and operates micro-hydroelectric power generation systems for water supply facilities owned by local governments while selling the electricity generated. As of March 31, 2024, these systems have been installed at a total of 50 locations nationwide in Japan, generating 33,700 MWh of electricity and reducing CO<sub>2</sub> emissions by 15,600 tons-CO<sub>2</sub>.

In fiscal 2023, DK-Power's micro hydroelectric power generation business received the New Energy Foundation Chairman's Prize at the New Energy Awards sponsored by the New Energy Foundation.

L DK-Power Received "New Energy Foundation Chairman's Prize" of the "2023 New Energy Award" for its Micro-Hydroelectric Power Generation

https://www.daikin.com/press/2024/20240131 2

#### Business Model Using DK-Power's Micro-hydroelectric Power Generation System



DK-Power, Ltd. (available in Japanese only)

https://www.dk-power.co.jp/

## Recycling CO<sub>2</sub> into Raw Material for Synthetic Resins

Daikin Industries, Ltd. and Doshisha University have discovered that carbide can be synthesized from CO<sub>2</sub> by molten salt electrolysis. Acetylene can be produced by reacting carbide with water. Since acetylene is used as a raw material for synthetic resins and for welding metals, this process is expected to result in material recycling from CO<sub>2</sub>.

Molten salt electrolysis is a method of electrolysis in high-temperature molten salt.\* Through joint research between the two parties, Daikin Industries, Ltd. and Doshisha University demonstrated that carbide can be synthesized with electrolysis by adding CO<sub>2</sub> to molten salt with a specific formulation. The results were announced by both parties in November 2023. In the future, we aim to contribute to the reduction of CO2 emitted into the atmosphere by utilizing this technology in thermal power plants and steel mills, which emit large amounts of CO<sub>2</sub>. In the future, we will continue to conduct research on manufacturing processes and engineering for social implementation.

\* A solid of ionic crystals of salts and oxides is heated to a high temperature and melted into a liquid.

Demonstration of the reuse of CO2 as acetylene by molten salt electrolysis (available in Japanese only) https://www.daikin.co.jp/press/2023/20231115

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### **Circular Economy**

# Initiatives for a Circular Economy

## **Basic Policy**

Amid growing concerns about resource depletion and waste problems, the world faces the challenge of moving away from mass production and mass consumption. This necessitates transitioning to a circular economy that creates economic value on the premise that products and raw materials are not simply disposed of as waste.

As a manufacturer of air conditioners, Daikin makes use of a large number of resources such as copper and aluminum. In addition, the refrigerant used for air conditioning is made from fluorite, which is a rare mineral. We believe that working toward a circular economy is not only our responsibility, but also a business opportunity to make a leap forward. Daikin strives to reduce and recycle resources and improve the recyclability of its products. In this context, we place the highest priority on building a system for the recovery, recycle, and reclamation of refrigerants, which are indispensable for our main products of air conditioners

See below for our water resource conservation and reduction of waste emissions

- 063 Environment Environmental Impacts in Business Activities Water Resource Conservation
- 064 Environment Environmental Impacts in **Business Activities Reducing Emissions**

## What Daikin Aspires For

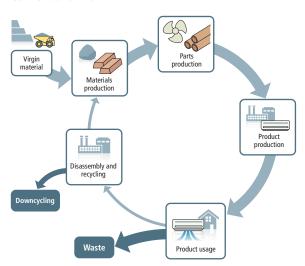
Introduction

Daikin will always carry out all of its business activities in consideration of circularity throughout the value chain, from the procurement of raw materials to the design and production of products, usage by customers, and final disposal.

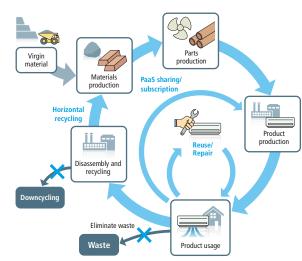
In supplying products and services, we will accelerate development and design based on the premise of resource conservation and recycling. We will promote the use of recycled materials, design products that are easy to recycle, and use subscription- and sharing-based services. Building out a collection network for products that have reached the end of their life is also indispensable for resource recycling. We aim to build a collection system not only for Daikin but also for the entire society together with industry. In addition to reducing waste, we will also work to improve our technology from downcycling 1 to horizontal recycling<sup>2</sup> so that resources can be used for as long as possible.

#### Conventional Flow

Contents



#### Circular Economy Flow



<sup>&</sup>lt;sup>1</sup> Recycling in which used products and their components are transformed into products with a lesser value than their original product.

<sup>&</sup>lt;sup>2</sup> Recycling in which used products and their components are transformed into resources, which are then used to produce the same product with the same value.

### **Circular Economy**

# Building a Refrigerant Eco-Cycle

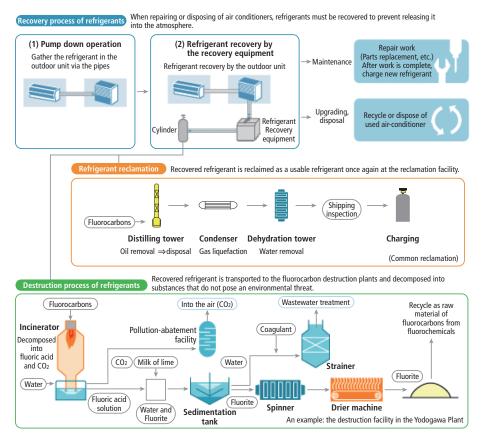
Contents

Introduction

# **Basic Policy**

The recovery, recycle, reclamation, and destruction of used refrigerants charged in air conditioners and other equipment from the market are important in terms of resource recycling, stable supply of refrigerants, and curbing greenhouse gas emissions. As part of our social responsibility as a company that makes both equipment and refrigerants, Daikin advocates for the establishment of refrigerant eco-cycle.

#### Recovery, Recycle, Reclamation, and Destruction of Refrigerants



# Establish an Eco-Cycle of Refrigerants (Recovery, Recycle, Reclamation, and Destruction)

## System for Recovery, Recycle, Reclamation and Destruction of Refrigerants in Europe

In Europe, where people are advocating for a circular economy, there is growing demand for the recovery, recycle, and reclamation of refrigerants from used air conditioners, from the standpoint of the importance of resource recycling and stable supply of refrigerants. Daikin has established a system for recovering, reclaiming and reusing refrigerants from used air conditioners in the European market.

Daikin has established three routes based on the quality condition of the recovered refrigerant, simple reclaiming that removes impurities such as oil and water, full-scale reclaiming that breaks the refrigerant down by component and then readjusts components at a plant to reclaim the quality as good as that of virgin refrigerant, and destruction for refrigerant that cannot be reclaimed. In the process of establishing these routes, we cooperated with A-Gas, a company based in the U.K. that recovers and reclaims refrigerant, and released simple reclaiming equipment under the Daikin brand in fiscal 2019. Daikin Refrigerants Frankfurt GmbH owns a destruction plant in Germany and began operating a reclamation plant there, too. By utilizing this scheme, in fiscal 2019, we commenced sales of VRV  $L \infty P$  by Daikin air conditioners that use reclaimed refrigerant.

🟲 Feature of Fiscal 2019: Environment—Launched New Refrigerant Service in Europe Contributing to a Circular Economy

https://www.daikin.com/-/media/Project/Daikin/daikin\_com/csr/pdf/feature2019/env-pdf.pdf

### Supporting the Recovery, Recycle, Reclamation and Destruction of Refrigerants in Emerging Countries

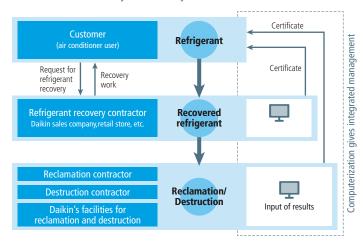
In emerging countries, Daikin cooperates with the Japanese government, national governments and other stakeholders to create refrigerant recovery, recycle, reclamation and destruction schemes. In fiscal 2020, we established our own recovery, recycle, and reclamation system in Singapore. Since fiscal 2021, Daikin has been promoting the establishment of a refrigerant recovery system in Vietnam in collaboration with Marubeni Corporation, M-ZETTO, and GenbaNEXT Technologies Private Limited, as part of the Joint Crediting Mechanism (JCM) Financing Support Programme run by Japan's Ministry of the Environment. A local demonstration of the system was held in January 2024, and we are continuing to exchange views with the Ministry of Environment of Vietnam for its deployment throughout the country. We are also exploring recovery systems in Thailand and Malaysia.

# Initiatives for the Recovery, Recycle, Reclamation and Destruction of Refrigerants in Japan

In Japan, we have been working on the commercialization of refrigerant recovery, recycle, and reclamation since fiscal 2021, under a promotion structure that integrates the chemicals and air conditioning divisions. Aiming to raise the refrigerant recovery, recycle, and reclamation rates for Japan as a whole, in fiscal 2023, we began operating a new reclamation facility and a system that enables centralized management of data from refrigerant recovery to destruction.

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#### Fluorocarbon Recovery Network System



See below for the amount of fluorocarbons recovered, amount destroyed in fluorocarbon recovery and destruction at time of repair and at time of disposal

148 Data ESG Data Environment Mitigating Environmental Impacts in the Value Chain

## Fluorocarbon Recovery and Destruction Business on Consignment

At the request of dealers and other businesses, we carry out proper recovery and destruction of refrigerants. The Daikin Contact Center receives calls all day, every day. Upon request, recovered fluorocarbons are delivered to certified contractors or recyclers licensed under the Act on Rational Use and Proper Management of Fluorocarbons nationwide, or are securely destroyed at contracted destruction facilities. In addition, some recovered refrigerants are destroyed at our in-house destruction and treatment facilities, and the resulting reclaimed fluorite is recycled as a raw material for refrigerants and fluorochemical products.

### Operation of Fluorocarbon Reclamation Facilities at the Yodogawa Plant

In December 2023, we established a new refrigerant reclamation facility at our Yodogawa Plant and obtained a license as a "Class I Refrigerant Reclamation Contractor." By reclaiming recovered refrigerants at the facilities of our refrigerant reclamation partner companies and Yodogawa Plant, we aim to raise the domestic refrigerant recovery and reclamation rates.

### Operation of a Fluorocarbon Recovery Data Network System

Aiming for reliable recovery of fluorocarbons (refrigerants) from commercial refrigeration and air-conditioning equipment, we have begun operating a refrigerant reclamation data network system that enables centralized management of information on all processes from recovery to reclamation and destruction, including the amount of refrigerants recovered, the amount reclaimed by reclamation contractors, and the amount destroyed by destruction contractors. The system contributes to thorough management in compliance with the Act on Rational Use and Proper Management of Fluorocarbons, as well as to the streamlining of legal administrative work at charging, recovery, reclamation, and destruction contractors.

### Training Technicians for Refrigerant Recovery and Installation

To ensure the reliable recovery of refrigerants, Daikin provides training to its employees and business partners that covers the specialist knowledge and techniques required.

In Japan, we continue to hold training sessions and seminars to develop qualified personnel in relation to the Act on Rational Use and Proper Management of Fluorocarbons, and we are also working to enhance the curriculum of our training programs by creating videos explaining standard installation and key points of brazing work. The curriculum of these domestic training programs is shared with our service centers in Singapore and other countries and regions in an effort to train technicians who perform refrigerant recovery and installation globally.

#### Examples of Training Related to Refrigerant Recovery and Installation (in Japan)

Name of training	Fiscal 2023 results	
Refrigerant Recovery Technician preparatory workshop	Target: all employees in Japan handling refrigerants Number of participants: 2,768	
First and Second Grade Refrigerant Fluorocarbons Handling Technician preparatory workshop	Target: all employees in Japan handling refrigerants Number of participants: 5,015	

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#### **Circular Economy**

# Circular Product Design and Service Creation

Contents

# **Basic Policy**

Daikin strives to create products and services with the value people demand and that can be used over a long period of time. We maximize the use of resources at all stages of the product life cycle, from design to repair and final disposal.

# **Initiatives during Design** and Development

### Making Smaller and Lighter Products

Making products smaller and lighter is effective for reducing the amount of resources used. When making air conditioners, for each product we set weight reduction targets for both the entire product and its components.

However, if making it smaller and lighter means compromised energy efficiency, then the product's environmental performance throughout the entire lifecycle has not yet been improved. When Daikin develops products, we establish weight reduction targets for each product on the condition that the annual performance factor (APF) does not decrease.

## Switching to Materials with Relatively Smaller **Environmental Impact**

The main materials used in air conditioners are metals such as iron, copper, and aluminum. Of these, copper faces the issue of over mining which leads to lower ore grade, while its demand is expected to increase as society strives to decarbonize. Daikin is working to reduce the amount of copper it uses through the establishment of replacement technologies.

In addition, the circular use of plastic resources is also another major challenge. Daikin is making efforts to use recycled materials and alternative materials in its products

as well as reduce the amount of plastic-derived packaging materials it uses.

### Product Design That Enables Easy Sorting and Recycling

We consider a product's recyclability from its design phase. We adopt the use of resins that are easily recyclable and structures that can easily be dismantled, and promote the labeling of materials for sorting and recycling. In addition, Daikin also strives to reduce parts and develop structures with improved recyclability.

See below for our environmentally conscious design 036 Environment Environmental Management **Environmentally Conscious Design** 

### Reducing Rare Earth Usage

Introduction

Daikin is working to reduce the amount of heavy rare earths added for high heat resistance, in parallel with reducing the use of rare earth-based magnets through motor design.

Additionally, we will accelerate the reduction of rare earth usage by studying magnets that reduce their use. We are also working to recycle rare earth magnets in collaboration with third parties.

#### Main Results in Fiscal 2023

The main results of development and other initiatives in fiscal 2023 related to resource conservation and resource recycling are presented below.

#### Residential air conditioners

- The industry's first use of heavy rare earth-free magnets in compressor motors for some models released in 2023, with plans to increase the number of 2024 models using this technology.
- Use of recycled plastic for the cover of the stop valve and some plastic parts in the indoor unit.

#### Residential air conditioners and other air conditioners in general

- Adoption of recycled PP and HIPS materials in some residential air conditioner models
- Development of technology to manufacture aluminum fins from aluminum scrap generated in plants

#### Air conditioners for cooling computer equipment

- Weight reduction by changing the layout of parts in indoor units
- 6.8% reduction compared with conventional models
- Weight reduction by installing an aluminum air heat exchanger in the outdoor unit
- 4% reduction compared with conventional models

#### Streamer air purifiers

• Use of both resin parts made of new material plus recycled material

## Creating a Circular Economy-Type **Business Model**

As part of its business development linked to the circular economy, Daikin provides services that enable customers to access the air environment they desire without having to purchase or own air conditioners. We aim to build a business model adapted to the circular economy by providing the intangible value of "air" through solutions that meet individual needs, including installation, energy management, maintenance, and support in the event of a breakdown.

## Subscription-based Air Conditioner Business

Daikin operates a subscription-based business for air conditioners in Japan and Africa. The key to this business is the direct recovery of valuable resources used to make air conditioners. Air conditioners are made from many metals such as copper and aluminum. In addition, the refrigerant used in air conditioners has a greenhouse effect hundreds to thousands of times greater than CO<sub>2</sub>, and if left unattended after a breakdown, air conditioners will release it into the atmosphere. In this business, ownership of the air conditioners remains with Daikin, which ensures that the refrigerant is eventually recovered along with the equipment itself. Energy management can also lower air conditioner electricity consumption and greenhouse gas emissions, and maintenance can prevent refrigerant leaks.

#### 068 Social Value with Air

Feature of Fiscal 2019: New Value Creation—Delivering Healthy and Comfortable Air Environments and Spaces to Africa with Collaborative Innovation

https://www.daikin.com/-/media/Project/Daikin/daikin\_com/csr/pdf/ feature2019/value-pdf.pdf

Baridi Baridi Inc.

https://baridibaridi.com/en.html

# **Initiatives during Use and Repairs**

Introduction

Making products that last longer means that fewer resources are used. Daikin customizes air conditioners in use and provides services that enable energy-efficient and comfortable air conditioning with little in the way of installation and cost. In addition, Daikin has established a repair system around the world and is promoting reuse and repair initiatives.

## Retrofit Maintenance Plan: Increasing Air Conditioner Functionality with Parts Replacement

The Retrofit Maintenance Plan that Daikin has come up with is a service that can increase the energy efficiency of existing air conditioners. By replacing the control board compressor of multi-split type air conditioners for commercial buildings with the latest components, energy consumption can be reduced. Compared to updating the main unit, replacing parts requires less than one-third of the weight, leading to resource conservation.

Since the start of the service, we have been expanding the service application to include more models.

#### Overhauls

Contents

Daikin also offers preventive maintenance services that involve the overhaul and inspection of air conditioners. By repairing and replacing key components, such as compressors, control boards, and temperature sensors, this service helps to prevent breakdowns due to aged deterioration and extend the service life of products.

## Repair System Aimed at Increasing **Product Longevity**

Daikin is strengthening its repair system by establishing service outlets around the world to address customer repair requests and questions and enquiries regarding products.

In Japan, the Daikin Contact Center is open 24 hours a day, every day of the year to take inquiries and receive requests for repairs. Also, we are making repair requests more accessible, as the telephone Contact Center staff follows a support system that promptly asks for necessary information on the phone and provides adequate directions, and we offer other ways of reaching us other than by telephone, such as over the Internet. Additionally, we are also focusing on increasing the technical capabilities of service engineers, which includes introducing an engineer certification system.

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# **Initiatives during Transport**

### Reducing Packaging Materials

Daikin has established a target to reduce CO<sub>2</sub> emissions related to packaging design by 600 tons-CO<sub>2</sub> compared to fiscal 2020 in fiscal 2025 by developing environmentally conscious packaging.

In fiscal 2023, we established a target of 360 tons-CO<sub>2</sub> and achieved a reduction of 395 tons-CO<sub>2</sub> after working to lower the usage of polystyrene foam, which has high CO<sub>2</sub> emission coefficient, and wood, which weighs a lot.

Looking ahead, we anticipate that products will become larger to accommodate the larger number of energy efficiency functions. We will continue working toward to eventually eliminate our use of polystyrene foam to rein in any increases in our total use of packaging materials.

#### Main Achievements in Reducing Packaging Materials in Fiscal 2023

- Eliminated the use of polystyrene foam on the top surface of some commercial air conditioner SkyAir models, reducing 65 tons-CO2 per year
- Achieved packaging specifications for ceiling-suspended indoor units that reduce the use of wood by 192 tons-CO<sub>2</sub> per year
- Reduction of container board usage by changing the combination of top-bottom tray and sleeve for energyefficient inverter air conditioners bound for North America

### **Topics**

Introduction

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### Received the Japan Star Award at the 2023 Japan Packaging Contest

Daikin Industries, Ltd., Oji Holdings, and Oji Container Co., Ltd. won the Japan Star Award (Chairman's Award of the Japan Packaging Institute) at the 2023 Japan Packaging Contest organized by the Japan Packaging Institute for the development of an automated assembly machine for S-round flow packaging trays.

In parallel with the development of an automated machine, we developed packaging materials and changed the conventional four-layer structure, which could not be done by machines, to three layers by adjusting the inner core strength. This resulted in a 2% reduction in packaging volume. The use of containerboard was also reduced by 4%, resulting in an annual reduction of 94 tons-CO2.

This technology also won the WorldStar Award at WorldStar Competition 2024 organized by the World Packaging Organization (WPO).

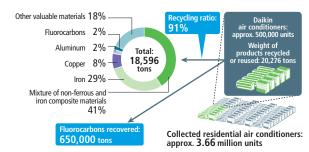
# **Promoting Recycling**

## Home Appliance Recycling

Japan's Home Appliance Recycling Law obligates manufacturers to recycle at least 80% of the material from their own residential air conditioners as well as recover and then reuse or destroy refrigerants.

In fiscal 2023, we recovered about 0.5 million units totaling 20,276 tons. The recycling ratio was 91% and the amount of fluorocarbons recovered was 0.65 million tons-CO2

### Recycling of Residential Air Conditioners in FY2023 (Japan)



See below for our home appliance recycling results https://www.daikin.com/csr/environment/recycling

#### Fluorocarbon Polymer Recovery and Recycle Business

Daikin Compounding Italy S.p.A. recovers waste and cutting scraps from the molding and processing of fluororesin and super engineering plastics, whether made by the company or other companies, and sells recycled products that have been cleaned, crushed, mixed, repelletized, and otherwise treated at the company's own facilities. These recycled plastics are used for packing and sealing materials in various industrial fields, as well as materials for tubing and piping.



Recovered PTFE raw materials for recycle

Environment

#### **Biodiversity**

# Protecting Biodiversity

### **Basic Polic**

## Protect and Rejuvenate the Gifts of Nature Recognizing the Impacts of Our Business Activities

Our society is built on the many blessings of nature. The loss of natural capital such as diversity of flora and fauna, water, soil, and mineral resources affects not only the health of the Earth, but also economic and social stability. The Kunming-Montreal Global Biodiversity Framework (GBF) adopted during the fifteenth meeting of the Conference of the Parties (COP 15) to the Convention on Biological Diversity in 2022 sets an interim goal for 2030 "to halt and reverse biodiversity loss to put nature on a path to recovery." This goal, called "Nature Positive," aims to realize a world in harmony with nature by 2050. To achieve this goal, it is important for companies to understand their dependence on and impact on nature, including biodiversity, through their business activities, set targets, and disclose their progress.

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Daikin is committed to minimizing the negative impacts of its business activities on biodiversity, while at the same time working to maintain the balance and restore vibrant nature and ecosystems around the world. Furthermore, in light of social trends, Daikin has begun to better understand how its business activities depend on and impact nature in order to disclose information in accordance with the guidelines of the Task Force on Nature-related Financial Disclosures (TNFD).

## Basic Policy of Protecting Biodiversity

In September 2010, Daikin established its Basic Policy on Protecting Biodiversity.

In Daikin's business activities, greenhouse gas emissions have a particularly large impact on biodiversity. We consider it most important to minimize our impact on biodiversity by reducing greenhouse gas emissions through efforts to address climate change throughout our business activities, including product development, production, transportation, sales, after-sales service, and supply chain.

In addition to addressing climate change, Daikin's Basic Policy on Protecting Biodiversity promotes efforts to protect and rejuvenate the bounty of nature outside of its business operations.

On top of promoting employee-led efforts to protect and rejuvenate nature at our own facilities and in neighboring communities worldwide, we also work with governments, local residents, NPOs and NGOs to preserve forests around the world as part of our environmental and social contribution activities, acting for the sake of abundant greenery and the air.

178 Data Policies, Regulations and Guidelines Basic Policy of Protecting Biodiversity

# **Business Activities and Biodiversity**

Daikin has identified social issues that have a significant impact on both the company and society, determining that climate change as a top priority issue. We believe that climate change and biodiversity must be addressed based on the fact that they are interdependent and influence each other.

Daikin is working on and disclosing information on climate change in line with the TCFD recommendations. With regard to biodiversity, Daikin is also making efforts to understand the nature-related dependencies and impacts of its overall business activities, organize risks and opportunities, and promote integrated assessment and management.

In recent years, it has been pointed out that identifying and assessing water risks is important not only for business activities but also from the perspective of biodiversity. Daikin is committed to the sustainable use of natural resources, for example, by taking action against water shortages for operations in regions with high water stress.

Similar to carbon neutrality, it is important that biodiversity conservation be addressed throughout the supply chain. Daikin asks its suppliers to consider and address biodiversity in its Green Procurement Guidelines and Supply Chain CSR Promotion Guidelines.

- 015 Management Overview of Sustainability **Identifying Material Issues**
- 063 Environment Environmental Impacts in **Business Activities Water Resource Conservation**
- 111 Social Supply Chain Management

# Efforts at Bases in Japan

## Shiga Plant Rejuvenates a Community Forest for Coexistence Between People and Nature

At the biotope called Daikin Shiga Forest established in 2012, employees have been exterminating non-native species, introducing and maintaining native species, and conducting biological monitoring surveys with the aim of recreating a satoyama landscape. The Hydrocharis dubia\* plants introduced from Yabase-Kihan Island, Shiga Prefecture, in fiscal 2021, are also increasing steadily. We are also using the biotope as part of environmental education for local elementary school students.

\* A floating native plant existing throughout Japan except Hokkaido. Due to environmental changes in rivers and lakes, it has declined rapidly and was listed as a near-threatened species in the Ministry of the Environment's Red List in 2020.





Bird house installed in the forest

Environmental education for elementary school students

## Nature Forest at Yodogawa Plant

The Nature Forest at Yodogawa Plant created in 2015 has been nurtured through both natural selection and human care, with the aim of recreating the satoyama landscape of Hokusetsu, the local region. The year 2017 saw the start of firefly habitat maintenance, and by 2023 we had confirmed a total of over 300 fireflies hatching. The forest has contributed to the rich ecosystem of the Yodo River basin, growing into a place where a diverse range of organisms inhabit and visit.



Genji firefly



Black snail



Musk swallowtail

## **Biodiversity Conservation** at the Sakai Plant's Biotope

Introduction

Sakai Plant established a biotope in 2012 with the aim of creating a home for living organisms. Since then, all employees and their families have participated in the greening of the area around the biotope. As a result, the biotope at the Kanaoka Factory, which is surrounded by residential areas, is home to many aquatic organisms, including Oryzias and Pseudorasbora parva, and other fish, and is also visited by birds such as spot-billed ducks and wagtails to rest their wings.







Biotope at Kanaoka Factory

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Ecological survey

Oryzias and Pseudorasbora parva

#### Daikin Ales Aoya Training Center Works to Protect and Reiuvenate Natural Forests on Coastal Dunes and Beaches

Daikin Ales Aoya Global Training Center in Tottori Prefecture. Japan is located at a coastal dune known for its "whistling sand." The area is home to a typical coastal vegetation ecosystem: starting from the beach gradually giving way to taller trees. However, this coastal vegetation has been rapidly disappearing in the last decade or two. When Daikin Industries, Ltd. began to not just protect these rare beaches and dunes, but also bring back the nature that had been lost so that this coastal ecosystem could once again return to its natural state, we began by surveying the region's vegetation,



Daikin Ales Aoya (overview)



SEGES

Mark of certification for the SEGES (Social and Environmental Green Evaluation System)

based on which we made a proposal to plant vegetation. After implementation, we had advice from experts in the monitoring and fostering of the vegetation.

These activities were recognized with Excellent Stage 3 certification, which is the second highest level on the 5-step evaluation of the SEGES social/environmental contribution greenery evaluation system run by the Organization for Landscape and Urban Green Infrastructure.

#### Rejuvenating Community Forests in Osaka Prefecture

Daikin is also rejuvenating forests around its business sites. Using the adopt-a-forest program,\* Daikin has been involved in Satoyama restoration in Harashiroyama forest in Takatsuki City, Osaka Prefecture since fiscal 2012 and in Izuhara in Ibaraki City since fiscal 2016.

At Harashiroyama forest, which was traditionally used to harvest bamboo, and to obtain wood for firewood and making charcoal, Daikin is working with local residents to thin out the forest that had become overgrown. In fiscal 2023, we held four forest development activities, with 64 employees, along with their families, participating at Harashiroyama and 27 at Izuhara.

\* A program where Osaka Prefecture works with companies and forest owners to encourage their involvement in forest upkeep work.

## **Initiatives at Overseas Bases**

At its bases around the world, Daikin takes part in a number of nature conservation activities in forests, along rivers, and coastal areas at its business locations and in the local communities.



Daikin Isitma Ve Sogutma Sistemleri Sanayi Ticaret A.S. Tree planting in the community



Daikin Compressor Industries Ltd. Tree-planting volunteers at a local forest

# **Initiatives through Corporate** Citizenship Programs

### "Forests for the Air" Project Helps Preserve Irreplaceable Resources—The World's Valuable Forests

Forests, which nurture biodiversity, produce oxygen through photosynthesis, release water vapor that provides a cooling effect that mitigates rising temperatures and have an air purifying effect that removes air pollutants from the air. Forests are the earth's air conditioner.

With its business of providing a comfortable air environment, Daikin is committed to the movement to protect and nurture vibrant forests. Since 2014, Daikin has implemented the "Forests for the Air" project to conserve the world's valuable forests. Over the 10-year period to the end of 2023, the project has conserved 11 million hectares of forests and contributed to the reduction of more than 7 million tons of CO<sub>2</sub> emissions.

In response to growing interest in biodiversity in recent years, we have decided to extend the project for another 10 years on the occasion of Daikin's 100th anniversary in 2024. We will strengthen our support in Hokkaido's Shiretoko, Indonesia, India, China, and the Amazon River Basin, and re-launch the project on Okinawa Prefecture's Iriomote Island and in Ethiopia.

This project aims not only to plant trees but also to establish a forest conservation system led by local residents. Taking advantage of global partnerships with international NGOs and other organizations, we will provide localized

#### Regions Covered by the "Forests for the Air" Project



community support, such as supporting agriculture as an alternative source of income to deforestation and environmental education.

□ "Forests for the Air" Project https://www.daikin.com/csr/forests

Introduction

#### **Initiatives in Shiretoko**

Contents

Shiretoko Nature Foundation, Shari Town, and Rausu Town have concluded an agreement to support the conservation and restoration of the natural environment in Shiretoko. Hokkaido. Daikin contributes to the reforestation of Shiretoko through donations and the dispatch of employee volunteers twice each year, as well as through the development of environmental human resources. By the end of 2023, a total of 225 employees had participated in reforestation efforts.





Daikin volunteers (September 2023)

Daikin volunteers (February 2024)

#### Initiatives in Indonesia

Since 2008, Daikin has been working with international NGO Conservation International (CI) on a reforestation project in Gunung Gede Pangrango National Park on Java Island in Indonesia to rejuvenate the forest and its ecosystems.

This national park is covered with valuable tropical forests that are home to many unique species designated as endangered. But in the last several decades, there has been rapid deforestation as social problems such as poverty have forced people to clear land for agriculture and cut down trees to support their lifestyles. Toward solving this problem, Daikin is contributing to reforestation but also providing support to secure alternate livelihoods for residents to reduce their dependence on cutting down trees. So far under this project, about 150,000 trees (local species) were planted on about 300 hectares with the help of 644 local farming families and 20 national park rangers.

We have been supporting farming (agroforestry), and providing environmental education to help residents build a foundation for their lifestyles.

In addition, we have also helped bring the natural gift of water and hydropower to households in these areas. This improved the convenience and sanitation, as well as opened up the residents' awareness toward the importance of the forest, with the result that they are more eager to protect their natural resources.

In fiscal 2018, we received a letter of appreciation for our environmental and social contribution activities from the government of Indonesia. The letter recognizes our contributions to the revitalization of forest that serves as a water source for Indonesia's capital of Jakarta as well as our contributions to solving social issues faced by local communities, such as poverty and education. Through forest conservation activities like this. Daikin will contribute to the achievement of SDGs by helping solve social problems such as poverty.



Helping create a livelihood for local farmers: Preparing cucumbers grown in the planted forest to be sold in the market ©Conservation International, Photo by Anton Ario

#### Initiatives in the Amazon Basin

We are promoting sustainable forest use so that local residents can enjoy the bounty of nature and live alongside the forest. In Amapa, Brazil, the introduction of agroforestry and support for commercialization of agricultural products resulted in a 20% increase in the income of 43 households. These activities have helped to establish infrastructure for livelihoods that do not depend on deforestation

In the future, the scope of support will be expanded to Bolivia, and efforts will be made to conserve forests in the Amazon River Basin while protecting the rights of indigenous peoples.

#### **Environmental Impacts in Business Activities**

# Water Resource Conservation

# **Basic Policy**

Daikin strives to reduce water consumption by reusing wastewater as much as possible at its production bases. We will also identify bases with water risks and conserve water resources throughout the value chain. At our production bases around the world, we are strengthening controls on water use.

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Introduction

# Risks and Opportunities Related to Water Resources

Recognizing that impacts on operations caused by water shortages pose a risk, Daikin assesses water stress levels—more specifically, supply-demand conditions—in regions around the world where we operate manufacturing bases. We also conduct the same assessment on our major business partners and have established water conservation items within the Green Procurement Guidelines. Furthermore, the chemicals divisions, which use large amounts of water, have located manufacturing bases in major river basins with direct access to water resources.

On the other hand, we also recognize that reducing water usage represents an opportunity to lower production costs. We are working to reduce water intake volume, having defined the difference between water intake and water discharge volumes as water consumption volume. All water that is used is treated and purified so it can be returned to water intake sources. For water purification, Daikin has set its own voluntary standards that are even stricter than legal requirements, which it always strictly adheres to.

# **Addressing Water Risks**

Daikin has investigated areas of water stress since fiscal 2014 using the water risk map of the World Resources Institute (WRI) called Aqueduct and the Global Water Tool of the World Business Council for Sustainable Development (WBCSD). As a result, we have identified Daikin Device (Xi'an) Co., Ltd. and Daikin Airconditioning India Pvt. Ltd. as located in areas of high water stress. Both companies have since added rainwater storage pits and taken other

countermeasures, along with formulating a business continuity plan (BCP) in case water shortages impact operations.

Environment

See below for our water intake and wastewater in water-stressed regions (India, China)

150 Data ESG Data Environment Reducing Environmental Impacts of Business Activities

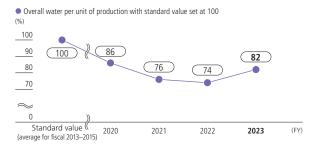
#### Water Intake Reduction

### Reducing Water Intake per Unit of Production

Daikin has established a goal of reducing water intake per unit of production by 10% in fiscal 2025 compared to the baseline.\* For example, we reduced water intake volumes by reusing water used for cleaning and other processes after purifying it.

In fiscal 2023, we achieved a reduction of 18% compared to the baseline.

#### Water Intake per Unit of Production



See below for our water intake and wastewater trends, Chemical Oxygen Demand (COD) emissions

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## **Engagement with Stakeholders**

Daikin uses water at each of its manufacturing bases during the cleaning and painting processes for air conditioner parts. This water is released after being treated. At our plants in Japan, we regularly hold discussions with local residents where we share information about our initiatives concerning water.

<sup>\*</sup> Average water intake between fiscal 2013 and fiscal 2015.

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### **Environmental Impacts in Business Activities**

# Reducing Emissions

## **Basic Policy**

Daikin is promoting initiatives for a circular economy as one of the key themes of the mediumterm strategic management plan, Fusion 25. As part of this, we are working to recycle waste generated in the production process and reduce the amount of waste generated.

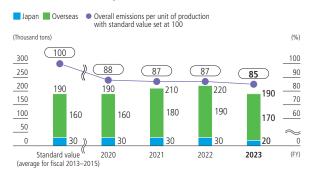
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#### Waste Reduction in Production Processes

Daikin is working to reduce waste emissions from production processes, including hazardous waste, as well as endeavoring to reuse or recycle waste emissions. We have set a target of reducing fiscal 2025 emissions per unit of production across the entire Group by 10% compared to the baseline.\* In order to reach this target, we are committed to reviewing the production process and reducing deficiencies through equipment renewal.

In fiscal 2023, we achieved a 15% reduction compared to the baseline.

#### Emissions/Emissions per Unit of Production



# **Reducing Emissions of Waste Plastics**

Daikin is working to reduce plastic emissions and recycle plastic materials.

Group companies in Japan set targets for each business, and in the previous fiscal year, they worked to thoroughly separate and recycle waste plastics and plastic pallets generated during production. As a result, in fiscal 2023, the Daikin Group in Japan generated 7,443 tons of waste plastics.\* Going forward, we will continue to work to reduce these emissions and recycle plastics as resources.

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<sup>\*</sup> Average emissions between fiscal 2013 and fiscal 2015.

<sup>\*</sup> Includes in-house processing and excludes other valuable materials.

### **Environmental Impacts in Business Activities**

# Management and Reduction of Chemical Substances

Contents

# **Basic Policy**

Daikin makes efforts to prevent pollution caused by products and prevent pollution from plant operations. We request that materials suppliers thoroughly prevent the inclusion of prohibited chemical substances from entering our products in accordance with legal regulations. In addition, we manage and reduce emissions of chemical substances handled in the manufacturing process, as well as monitor voluntary standards for hazardous substance emissions in the air and water.

## Compliance with Restrictions on Hazardous Chemicals

### Management of Chemical Substances **Contained in Products**

Daikin has a list of designated control substances that are restricted under the RoHS Directive, 1 the REACH Regulation,<sup>2</sup> and other laws. These are stated in our Green Procurement Guidelines and we work to prevent the presence of these chemicals in our products.

- <sup>1</sup> The RoHS Directive (Restriction of Hazardous Substances Directive) 2011/65/EU is a regulation in the EU prohibiting the use of certain hazardous substances in electrical and electronic equipment.
- <sup>2</sup> The REACH Regulation 1907/2006/EC on chemical substances went into effect in Europe in June 2007, REACH obligates companies manufacturing or importing at least 1 ton of chemical substances a year in the EU to register with EU authorities. REACH covers almost all chemicals on the market in the EU.

See below for information about compliance with regulations on hazardous chemicals

114 Social Supply Chain Management Responsible Procurement Promoting Green Procurement

□ Compliance with J-Moss

https://www.daikin.com/csr/environment/j-moss

# **Products that Help Prevent Air Pollution**

Introduction

## Fluorine Materials for Automobiles that Suppress VOC Leakage

The automotive industry strictly regulates the transpiration of volatile organic compounds (VOCs), which contribute to air pollution. Daikin supplies fluorine materials that contribute to the prevention of air pollution.

NEOFLON CPT is a material for automobile fuel tubes and hoses that prevents permeation and leakage of VOCs in the hot engine surroundings. It reduces permeation to just one-fifth of Daikin's previous product, NEOFLON ETFE.

#### Automobile Fuel Hose Made of Fluororesin



Laminated hose made of general purpose rubber

# Management and Reduction of **Chemical Substances during Production**

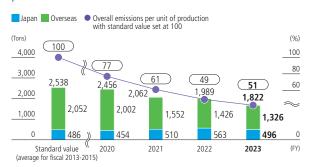
### Establishing Reduction Targets for PRTRregulated Substances and VOC

Each Daikin business base in Japan and overseas is making efforts to reduce a variety of chemical substances. They are also working continuously to increase the recovery rate and ensure the appropriate treatment of target substances.

We are working toward a target of reducing emissions per unit of production (total of PRTR<sup>1</sup> substances and VOCs) in fiscal 2025 by 10% compared to the baseline.<sup>2</sup> In fiscal 2023, we achieved a 49% reduction against the standard value.

- <sup>1</sup> Act on the Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management Improvement
- <sup>2</sup> Average chemical substance emissions between fiscal 2013 and fiscal 2015

#### Chemical Emissions (total of PRTR substances and VOCs) / per Unit of Production



See below for our compilation of PRTR substances

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Feature

#### Daikin's Approach to PFOA

Daikin Industries. Ltd. and its all affiliates has ceased the manufacture and use of perfluorooctanoic acid (PFOA) and related substances as of the end of calendar year 2015. Our Yodogawa Plant (Settsu City, Osaka Prefecture, Japan) has voluntary implemented measures such as pumping and cleaning up of groundwater to date in response to the detection of PFOA in the groundwater around the plant. As the company that manufactured and used PFOA in the past, we will continue to monitor trends relevant to PFOA and to take action in consultation with the local authorities.

Daikin's Approach to PFOA

https://www.daikinchemicals.com/sustainability/pfoa.html

#### Daikin's Approach to PFAS

Daikin Industries. Ltd. strives to minimize its environmental impacts including by capturing PFAS (perfluoroalkyl and polyfluoroalkyl substances) in process water discharges at its PFAS manufacturing sites. We recognize the need for continuous improvement in manufacturing stewardship. Going forward we consider new technologies and practices to help ensure the safe manufacture and use of our fluorine products.

Daikin's Approach to PFAS

https://www.daikinchemicals.com/sustainability/pfas.html

## Daikin's Approach to SOx and NOx

We measure and manage emissions of sulfur oxides (SOx) and nitrogen oxides (NOx), which are required to be measured by the laws and regulations applicable to each business base, in accordance with laws and regulations. We are also taking steps to further curtail their emissions.

See below for air pollutant emissions

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#### Storage and Treatment of PCBs

Daikin abides by national laws in properly managing equipment containing PCBs (polychlorinated biphenyls). Treatment of all waste containing high PCB concentrations was completed. Waste with low PCB concentrations is being disposed of based on a Daikin disposal plan.

# **Preventing Pollution**

### Minimizing Environmental Damage in Case of Accident or Disaster

Daikin has systems in place that allow it to minimize environmental damage if there should be an accident or calamity at Daikin manufacturing bases around the world. Our Disaster Prevention Manual details how to deal with emergencies like chemical and oil leaks, spills, and earthquakes. The manual is the basis for regular emergency drills. For example, evacuation training is held based on the scenario of plant accident and tsunami caused by an earthquake, while disaster prevention training is held twice a year based on the scenario of a fire occurring as a secondary disaster at Kashima Plant where Daikin Chemicals is located. In addition, other training was held three times at Shiga Plant, three times at Yodogawa Plant, and six times at Sakai Plant in fiscal 2023

## Monitoring of Pollutants

Daikin controls air and water pollution using voluntary standards that are stricter than national emission standards and local government by-laws. We regularly measure our various environmental impacts and work to either prevent or decrease them.