

Environment

032 Environmental Management

032 Basic Environmental Policy and Management Structure

035 Overview of Environmental Impacts

036 Environmental Risks and Opportunities

038 Environmentally Conscious Design

039 Response to Climate Change

039 Challenge to Achieve Carbon Neutrality

042 Power Consumption Reductions during Product Use

048 Promoting the Use of Heat Pump Space and Water Heaters

050 Reducing the Environmental Impacts of Refrigerants

054 Initiatives in Manufacturing (Development and Production) and Offices

056 Initiatives for a Decarbonized Society

057 Circular Economy

057 Initiatives for a Circular Economy

058 Building a Refrigerant Eco-Cycle

061 Circular Product Design and Service Creation

064 Reducing Emissions

065 In Harmony with Nature

065 Daikin's Approach to Natural Capital

066 Water Resource Conservation

067 Management and Reduction of Chemical Substances

069 Protecting Biodiversity




Environmental Management

Basic Environmental Policy and Management Structure

Basic Policy on Environmental Management and Structure

Basic Environmental Policy of the Daikin Group

Daikin promotes environmental management throughout the Group in accordance with the Basic Environmental Policy of the Daikin Group.

 Environmental Policy of the Daikin Group in Japan

https://www.daikin.com/-/media/Project/Daikin/daikin.com/csr/pdf/environment/env_policy-pdf.pdf

Basic Environmental Policy of the Daikin Group

Lead the Way to an Environmentally Conscious Society

As we continue developing our business operations in various fields, it is our mission to proactively develop initiatives to respond to environmental issues. Incorporating environmental initiatives throughout our management must be a priority for us.

In all aspects of our business operations, including product development, manufacturing and sales, we need to formulate initiatives that sustain and improve the environment. Meanwhile, we need to promote the development of new products and the innovation of technologies that will lead to a more environmentally healthy world.

Under the precept “environmental response is an important management resource,” we must integrate environmental initiatives into our corporate management since they can lead to business expansion, improved business performance, and further enhancement of our credibility with outside parties. We intend to continue being a leading company in the practice of “environmental management,” thus contributing to a healthier global environment as a good citizen of the earth.

Action Guidelines

1. Ensure that all members of the Group deepen our understanding of environmental issues and take responsibility for the impact our actions have on society in general.
2. Establish, promote, and continuously improve an Environmental Management System to actively and effectively implement Environmental Management as a Group.
3. Develop and implement environmental initiatives in all aspects of our business operations, including product development, production, sales, distribution, services, and recycling. In particular, be a leader in society by developing products, technologies, and business opportunities that contribute to sustaining and improving our environment.
4. Implement environmental initiatives that are globally consistent as well as promote initiatives that respond to the particular circumstances of each country and region. Furthermore, actively promote cooperation and alliances with related companies, external organizations, and institutions.
5. Disclose environmentally related information in a truthful and fair manner. Listen to the views of people both inside and outside the company to continuously improve our environmental preservation efforts.

Environmental Management Globally

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. We then deepen discussions on the rollout of improvement of good practices aimed at achieving our targets along with solutions to technical issues, which helps to strengthen the initiatives at each business site.

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.

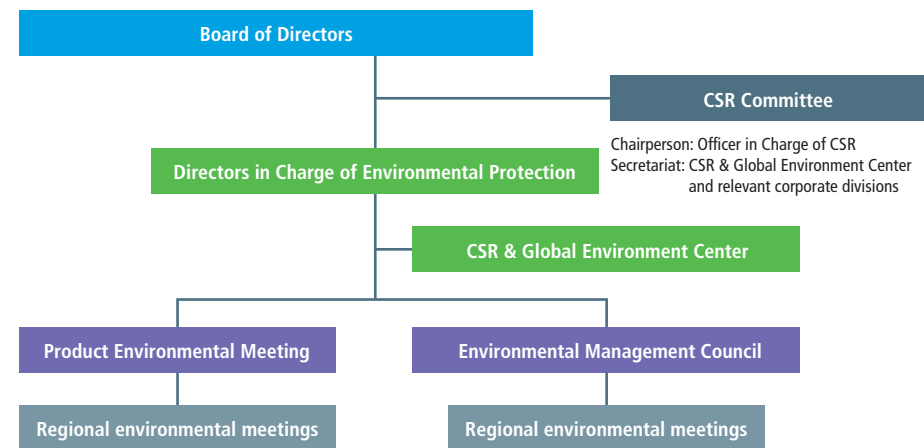
Environmental Management System

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 greenhouse gas emissions, water use, and waste water verified by a third party.

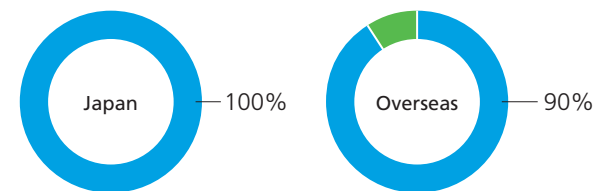
At each Daikin production base and office, systems are in place to minimize environmental damage in the unlikely event that accidents or disasters should occur. Also, we seek closer interactions with nearby residents' associations and conduct factory tours among other daily efforts to maintain an emergency 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 2024 at Daikin.

Structure Driving Environmental Management



Ratio of Employees Belonging to Facilities with ISO 14001 Certification (FY2024)



Daikin Bases Certified for ISO 14001

<https://www.daikin.com/-/media/Project/Daikin/daikin.com/csr/pdf/environment/2025/certified-pdf.pdf>

Environmental Audits

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 2024 internal audit of the Daikin Group in Japan, auditors confirmed legal compliance mechanisms and provided advice for continuous improvement, with two nonconformities having been corrected.

See below for findings from our environmental audits

 [162 Data ESG Data Environment Environmental Management](#)

Internal Auditor Training

As of the end of fiscal 2024, there are currently 98 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 21 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 the training held in fiscal 2024, group work was conducted on how to summarize findings in a way that satisfies the audited organization. The aim was to improve auditing skills so that the audited organization could fully understand the findings and use them to make improvements.

Green Heart Factories and Offices

Green Heart Factories


In fiscal 2005, Daikin established Green Heart Factory, its own unique system to evaluate and certify 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 CO₂ 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 classes of platinum, gold, silver, and bronze.

In the 2024 evaluation, six plants were certified as Platinum, 10 as Gold, 15 as Silver, and 25 as Bronze. In addition to Japan, a total of six plants in China, Thailand, and Malaysia, which have accelerated their efforts toward carbon neutrality through solar power generation and other means, were certified as Platinum for the first time.

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. Starting in fiscal 2023, we conducted a in-depth 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. We began using the new evaluation standards in the second half of fiscal 2024.

 [054 Environment Response to Climate Change Initiatives in Manufacturing \(Development and Production\) and Offices](#)

Environmental Management

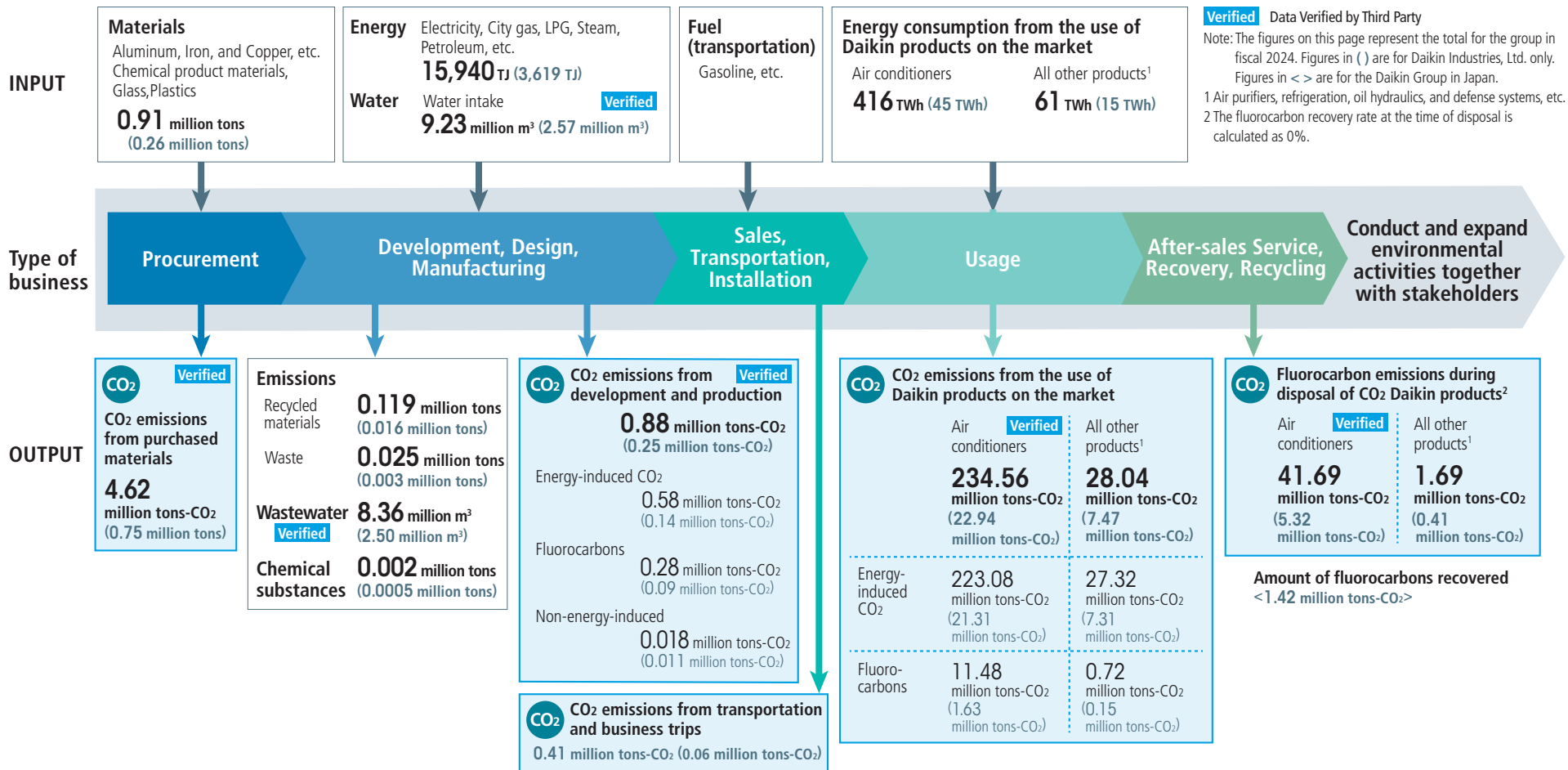
Overview of Environmental Impacts

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.

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

[155 Data ESG Data Environment](#)

[177 Data Third-Party Verification Method of Calculating Greenhouse Gas Emissions Data](#)



Environmental Management

Environmental Risks and Opportunities

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.

 [017 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 measures 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.

Environment-Related Risks and Opportunities and Potential Impact

Category		Impact on Daikin's business	Probability of occurrence	Potential financial impact
Climate related	Risks	Stricter regulations on refrigerants Regulations on refrigerants become too strict, existing air conditioners will no longer be compliant with these regulations and become obsolete	High	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
		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	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
Environment-related other than climate-related	Risks	Depletion of raw material resources Resources for raw material deplete, affecting business operation	High	Large
		Tightening of regulations on chemical substances As regulations become stricter, chemicals that are not in compliance with these regulations can no longer be sold	High	Large
		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
		Air, Water, and Soil Pollution If chemical substance management does not function at production bases and harmful substances are emitted, claims for damages may arise from the impact on human health and ecosystems, leading to a decline in trust of society	Medium	Large
		Depletion of Water Resources If excessive water intake occurs at production bases and water resources are depleted, appropriate measures must be taken to address the impact on biodiversity and local communities	Medium	Small
	Opportunities	Increased awareness toward air quality As air pollution becomes more serious, the needs for quality air increases	High	Large

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 | 8. Raise possibility of reuse of resources |
| 2. Use of recycled materials and parts | 9. Ease of disassembly and separation of materials by hand |
| 3. Packaging | 10. Ease of shredding/classifying for recycling |
| 4. Reduction in environmental impact during the manufacturing process | 11. Environmental conservation capabilities |
| 5. Energy and resource conservation in use | 12. Disclosure of information |
| 6. Product life extension | 13. LCA |
| 7. Ease of delivery/collecting/transporting | |

See below for the complete text on product assessment items.

 Product Assessment Items

https://www.daikin.com/-/media/Project/Daikin/daikin_com/csr/pdf/environment/product_assessment_items-pdf.pdf

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.

Response to Climate Change

Challenge to Achieve Carbon Neutrality

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.

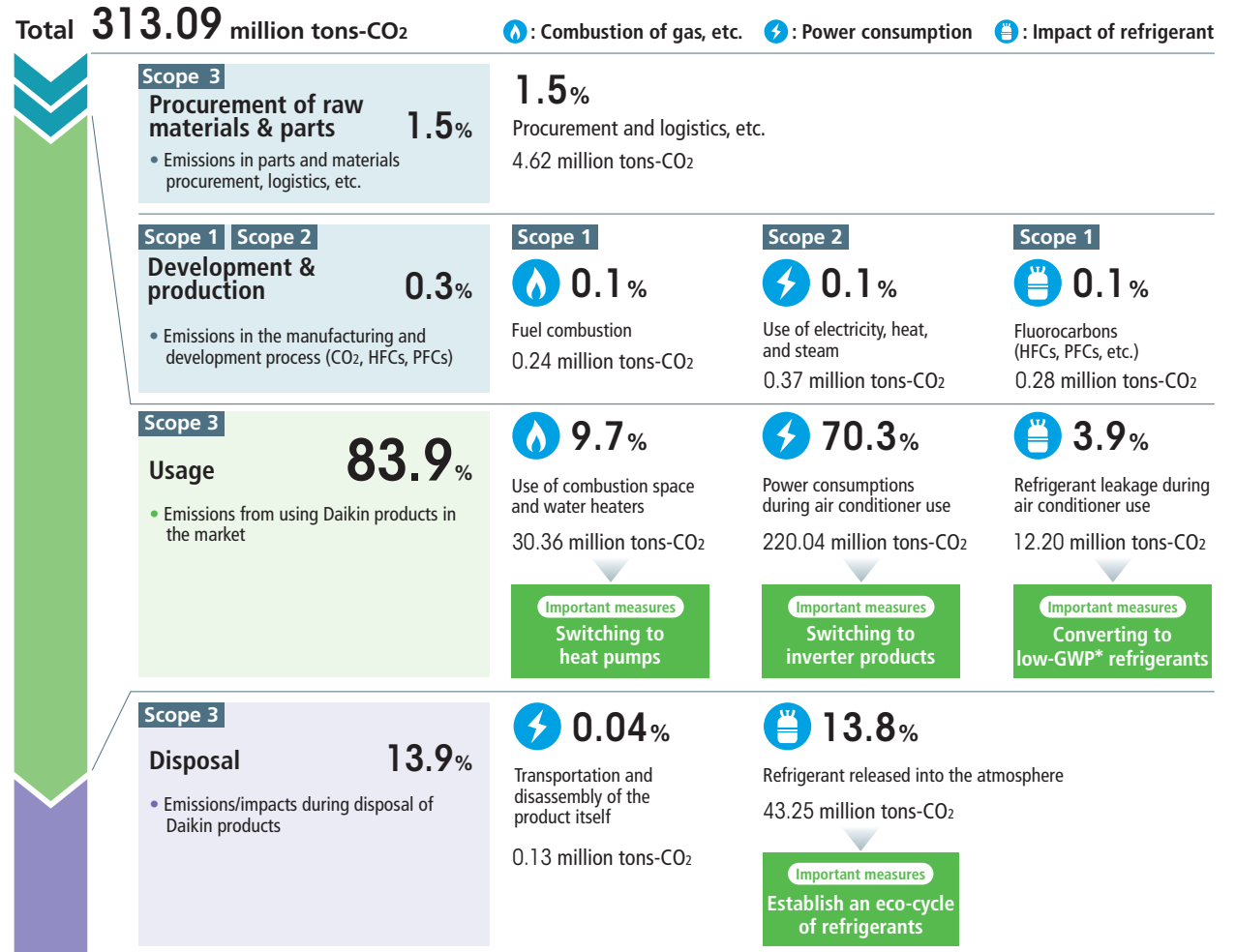
Daikin's Greenhouse Gas Emissions

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.

 Greenhouse Gas Protocol
<https://ghgprotocol.org/>

Overview of Daikin's Greenhouse Gas Emissions (Scope 1, 2, 3) (FY2024)



Note: In addition, any CO₂ (0.5%) resulting from capital investment, transportation and distribution is also calculated based on the GHG Protocol.

* Global Warming Potential

Targets and Measures for Carbon Neutrality

Initiative Overview

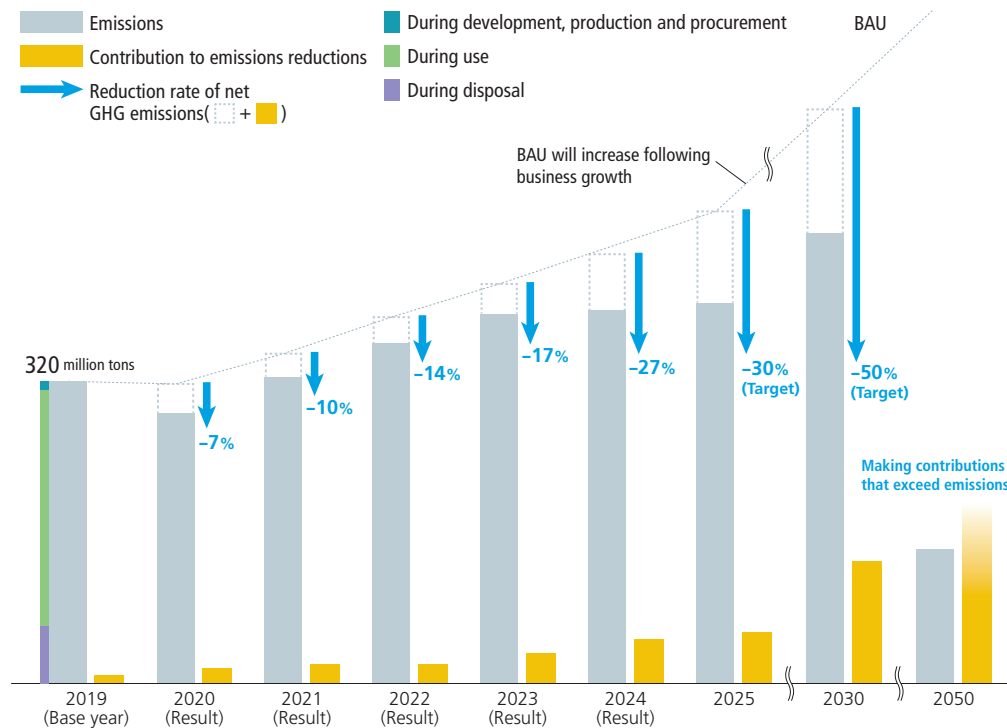
Daikin aims to achieve net zero greenhouse gas emissions throughout its value chain in 2050. As a medium-term goal, Daikin aims to reduce its net emissions¹ by at least 30% in 2025 and by at least 50% in 2030, with 2019 as the base year assuming BAU.² We are working on reducing emissions in line with the 1.5°C scenario, which aims to limit the global average temperature increase due to climate change to 1.5°C above pre-industrial levels. To achieve this, we will focus on reducing emissions during manufacturing (development and production) and at offices, which we can directly control, as well as reducing power consumption during product use and minimizing the environmental impact of refrigerants. By creating and spreading products and services with low environmental impact, we help to increase contributions to greenhouse gas emissions reductions in society. To reduce net emissions, we are executing various measures to reduce emissions and increase our contribution to emissions reduction by incorporating them into our Fusion strategic management plan.

¹ Defined as the total after subtracting our contribution to emissions reduction from our total greenhouse gas emissions. See the next page on contribution to emissions reduction.

² Business As Usual: BAU refers to emissions in case of normal business growth without the implementation of countermeasures.

015 Management Daikin's Sustainability Environmental Vision 2050

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



Measures Aimed at Reducing Net Emissions

- Initiatives in Manufacturing (Development and Production) and Offices** 054
 - Emissions reduction** Reduction of energy-induced and HFC/PFC-induced emissions during development and production
- Power Consumption Reductions during Product Use** 042
 - 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 to reduction** Replacing non-inverter equipment from other companies to inverter units
- Promoting the Use of Heat Pump Space and Water Heaters** 048
 - Emissions reduction** Replacing combustion space and water heaters, increasing efficiency
 - Increased contribution to reduction** Expanding sales of heat pump space and water heaters (replacing equipment from other companies)
- Reducing the Environmental Impacts of Refrigerants** 050
 - Emissions reduction** Promote R-32 refrigerants, develop next generation refrigerants, select low GWP refrigerants and equipment development
 - Increased contribution to reduction** Replacing R-410A on competing brand equipment with R-32, promote eco-cycle of refrigerants (refrigerant recovery, recycle, and reclamation)
- Initiatives for a Decarbonized Society** 056
 - CO₂ recovery and utilization (DAC, CCU), power initiatives such as energy creation and demand control, atmospheric water generator, etc.
- Initiatives for a Circular Economy** 057
 - Recovery, recycle, and reclamation of refrigerants, utilization of recycled materials, etc.

Contributions to Reductions of Greenhouse Gas Emissions

Daikin calculates its overall contribution to greenhouse gas reduction through the promotion of its low environmental impact products and services. 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 2024, the reduction contribution was 48.23 million tons-CO₂.

As of March 2025, 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.¹

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

[156 Data ESG Data Environment Mitigating Environmental Impacts in the Value Chain](#)



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

¹ 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)

² Based on Daikin's data

³ Based on IEA Emissions Factors

⁴ Based on Daikin's internal standards

⁵ Based on the European Commission's report of *Space and combination heaters Ecodesign and Energy Labelling*

⁶ Based on the IPCC *Fourth Assessment Report*

⁷ Calculated as 0% (Daikin also calculates emissions as 0%)

Example of Approach to Calculating Reduction Contribution

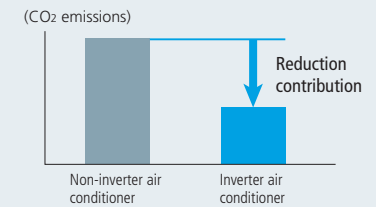
Daikin calculates its contribution to reduction through the spread of refrigeration and air conditioning equipment and space and water heaters with lower emissions using the following three products.

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.

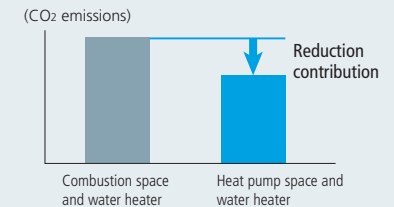
- **Baseline:** Emissions during use of non-inverter air conditioners
- **Target:** Emissions during use of inverter air conditioners
- **Calculation formula:** (power consumption per year per unit of non-inverter air conditioner² – power consumption per year per unit of inverter air conditioner²) × electricity emission factor³ × product lifespan⁴ × units sold²



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.

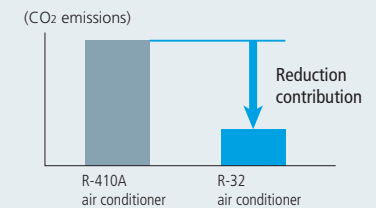
- **Baseline:** Emissions during use of combustion heating
- **Target:** Emissions during use of heat pump heating
- **Calculation formula:** (gas consumption/year per unit of combustion space and water heater² × gas emission factor⁵ – power consumption/year per unit of heat pump space and water heater² × electricity emission factor³) × product lifespan⁴ × units sold²



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-410A⁶ – GWP of R-32⁶) × charge amount per unit of air conditioner² × (1 – recovery rate⁷) × units sold²



Response to Climate Change

Power Consumption Reductions during Product Use

Basic Policy

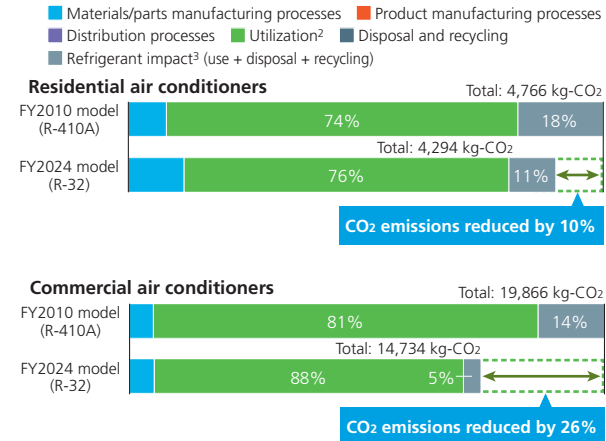
Daikin makes it its mission to reduce energy consumption in order to provide people with safe and comfortable air and contribute to reducing global warming. To this end, we conduct quantitative environmental assessments for each product life cycle in order to develop products and services that use minimal 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 2024, we reduced CO₂ emissions from residential air conditioners by 10% and from commercial air conditioners by 26% compared to life cycle CO₂ emissions of fiscal 2010.

Example of LCA: Comparison of CO₂ Emissions over Product Lifecycle¹



¹ Based on Daikin standards for 2.8-kW class residential air conditioners and 14-kW class commercial air conditioners.
² 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.
³ 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 CO₂ 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)¹ and integrated part load value (IPLV),² which are used as indicators of energy efficiency. In fiscal 2024, our top-of-the-line model had an APF of 6.9 for residential air conditioners and 8.0 for commercial air conditioners.

¹ 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.

² 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

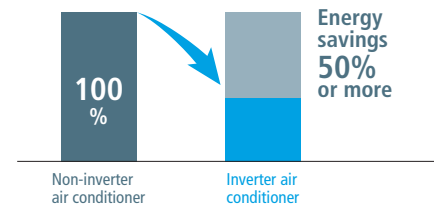
To reduce global warming worldwide, it is crucial to spread the use of highly energy efficient products to all countries. Inverter technology, which has already been established in Japan and Europe, can immediately contribute to energy savings. For this reason, Daikin is promoting the spread of inverter air conditioners around the world. We have already spread this technology in Oceania and the adoption of inverter models is accelerating in China and India in recent years.

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 energy usage than non-inverter models while maintaining comfort.*

Comparison of Energy Consumption (Example)



* 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

Market	2023	2024	2025
Japan	100.0%	100.0%	100.0%
EU	100.0%	100.0%	100.0%
Australia	100.0%	100.0%	100.0%
China	97.8%	98.5%	99.5%
India	76.0%	85.0%	90.0%
Brazil	65.0%	68.0%	71.0%
Saudi Arabia	24.0%	28.0%	31.0%

Source: BSRIA World Air Conditioning Overview 2025

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

Feature of Fiscal 2023: Environment—Promoting the Spread of Energy Saving Technology

https://www.daikin.com/-/media/Project/Daikin/daikin_com/csr/pdf/feature2023/env-pdf.pdf

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 In Japan, there are three categories: ZEB, Nearly ZEB,² and ZEB Ready² 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 new buildings. Daikin Industries, Ltd. registered as a ZEB planner³ in 2017. Since then, we have been working with general contractors in Japan and overseas to promote the spread of ZEB. As a ZEB planner, we measure the load data of existing air conditioners before considering ZEB. Based on the results, we propose the optimal capacity of air conditioner and support the realization of ZEB by renovating facilities and taking other steps.

Daikin is also working to meet similar ZEB standards set by each country and region. For example, in fiscal 2024, we began demonstration experiments in Bangkok and Singapore of an air conditioning system that can achieve the SLE grade (a 60% reduction in energy consumption compared to a benchmark building) under Singapore's green building standard known as Green Mark.

¹ Standard value: Energy consumption value of common buildings of the same size (reference building).

² In Japan, Nearly ZEB is a building that consumes at least 75% less energy compared to normal building energy standards and ZEB Ready is a building that consumes at least 50% less energy compared to normal building energy standards.

³ 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>

Results of ZEB Related Activities by Daikin

Time	Details
2015	<ul style="list-style-type: none"> Completed ZEB conversion for new, large-scale building at our Technology and Innovation Center (TIC) CASBEE certification in the S class, LEED® Platinum certification
2017	<ul style="list-style-type: none"> Daikin Industries, Ltd. registered as a ZEB planner
2018	<ul style="list-style-type: none"> 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 style="list-style-type: none"> 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
2020	<ul style="list-style-type: none"> 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 style="list-style-type: none"> Daikin HVAC Solution Co., Ltd. (all 10 companies in the Group), which has a network of domestic sales offices, registered as a ZEB planner The Omiya Office of Daikin HVAC Solution Tokyo Co., Ltd. was recognized as ZEB Ready Chiba Service Station received Nearly ZEB Distinction
2023	<ul style="list-style-type: none"> The Saga Sales Office of Daikin HVAC Solutions Kyushu Co., Ltd. received ZEB Distinction Kawagoe Service Station received Nearly ZEB Distinction The Okayama Branch of Daikin HVAC Solutions Chushikoku Co., Ltd. received ZEB Ready Distinction The headquarters of Daikin HVAC Solutions Tohoku Co., Ltd. received ZEB Ready Distinction
2024	<ul style="list-style-type: none"> Sendai Service Station received Nearly ZEB Distinction The Mito Sales Office of Daikin HVAC Solutions Tokyo Co., Ltd. received ZEB Ready Distinction The Matsudo Sales Office of Daikin HVAC Solutions Tokyo Co., Ltd. received ZEB Ready Distinction

Topics

Green Building Support Service Receives Award at the Fiscal 2024 Energy Conservation Grand Prize


Daikin Industries, Ltd.'s Green Building¹ Support Service, a solution for improving the ESG value of existing buildings, received the Director-General's Prize of the Agency for Natural Resources and Energy in the product and business model category at the fiscal 2024 Energy Conservation Grand Prize, sponsored by the Energy Conservation Center, Japan.

The Green Building Support Service assists in the decarbonization of existing buildings and improvement of their ESG ratings through energy-saving diagnosis, air-conditioning upgrades, and subsequent operational improvements. In one typical example where this service was used, energy-saving renovations resulted in a 56%² reduction in power consumption and subsequent operational improvements achieved a further 5%³ reduction.

¹ A building that is managed and operated with consideration for resource efficiency as well as environmental and social responsibilities.

² Comparison of energy consumption in buildings before and after ZEB recovery (primary energy consumption [BEI] 0.49). Before: 845,000 kWh / After: 374,000 kWh.

³ Reduced by upward of 354,000 kWh with the remote energy management service for air conditioning and energy-saving efforts by building owners and tenants.

 **Green Building Support Service: Solution to Improve the ESG Value of Existing Buildings**
(available in Japanese only)

<https://www.daikincc.com/fcs/service/GBSS/>

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 2024, 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 data on the environmentally conscious products sales unit ratio (residential air conditioners)

[157 Data ESG Data Environment Mitigating Environmental Impacts in the Value Chain](#)

Air Conditioning Products and Services for Japan

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.

[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-class¹ year-round energy consumption efficiency (annual performance factor: APF), reducing power consumption by up to approximately 63%² compared to inverter models from 15 years ago.

¹ Daikin research as of August 1, 2023

² Estimated by Daikin: Comparison between Daikin's inverter product (SYCP112AB, launched in 2008) and the new model (SSRC112C)

[Commercial air conditioners SkyAir series FIVE STAR ZEAS \(available in Japanese only\)](#)

<https://www.ac.daikin.co.jp/shopoffice/products/fivestarseas>

Topics

Daikin Products Receive Two ECCJ Chairman's Awards at the Fiscal 2024 Energy Conservation Grand Prize

Daikin products were recognized with two Energy Conservation Center, Japan Chairman's Awards in the product and business model category at the fiscal 2024 Energy Conservation Grand Prize, sponsored by the Energy Conservation Center, Japan.

AIRNET Service System Remote Monitoring Service for Commercial Air Conditioners

The AIRNET Service System delivers both energy savings and comfort by automatically controlling air conditioners remotely. AI is used to predict the heat load for each room based on the air conditioner's operating data and weather and solar radiation information on the cloud, helping to maintain a comfortable indoor environment with efficient operation. In 30 demonstration experiments in Japan and overseas, AIRNET Service System reduced power consumption up to approximately 20%* throughout the year.

* Verification results for one year (cooling/heating) in an office building (compared to our multi-split type air conditioners for commercial buildings sold after 2015).

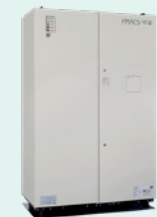
[AIRNET Service System Remote Monitoring Service for Commercial Air Conditioner \(available in Japanese only\)](#)

<https://www.daikincc.com/fcs/service/airnet/>

FMACS-VI (M) Air Conditioner for ICT Equipment

FMACS-VI (M) is a year-round cooling type air conditioner for ICT equipment jointly developed with NTT Facilities, Inc. and released in January 2024, with the aim of contributing to carbon neutrality. By adopting R-32 refrigerant with low global warming potential and utilizing Daikin's unique high-efficiency turbo fan, IPM motor, and airflow analysis technology, FMACS-VI (M) consumes around 20% less power annually compared to conventional models.

Note: FMACS is a registered trademark of NTT Facilities Inc.



FMACS-VI (M) indoor unit

Fluorochemical Products

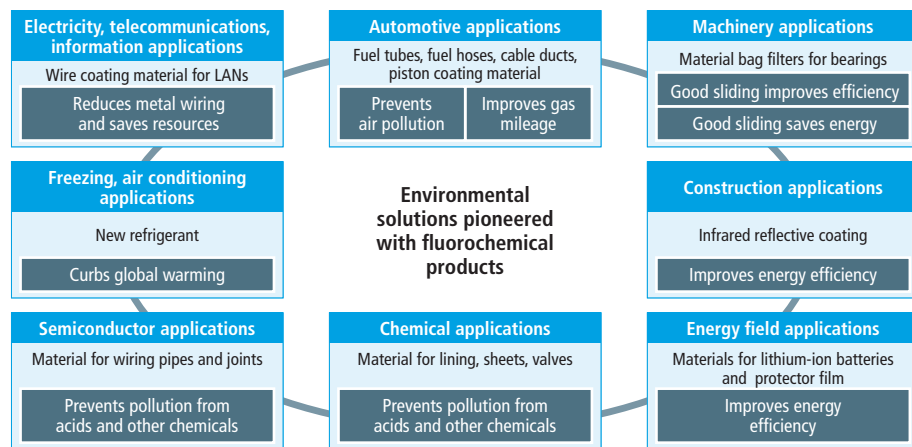
Fluorine Materials Help to Mitigate Environmental Impacts in a Range of Areas

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.

 Daikin's Solutions

<https://www.daikinchemicals.com/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. For the new model released in fiscal 2024, we used a newly installed sensor to determine the deterioration state of hydraulic oil, helping to improve productivity by preventing equipment and machinery stoppages.

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 holding mode and standby. These units are used in a wide range of industrial machinery, where they contribute greatly to energy saving and CO₂ 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 $\pm 0.1^{\circ}\text{C}$, 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. In fiscal 2024, we began selling a new series, which uses R-32 refrigerant with low global warming potential and reduces power consumption by 10% compared to the 10 Series.

We have also developed water-cooled oil conditioners, Rakufil filters that extend the life of our products, and products for overseas export, which allows us to gradually expand our lineup.

 Oil Hydraulics

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

Response to Climate Change

Promoting the Use of Heat Pump Space and Water Heaters

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 approximately 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 energy-efficient heat pump technology while striving to increase comfort and reduce CO₂ emissions.

Initiatives to Promote the Spread of Heat Pumps

Bringing More CO₂-Reducing Heat Pump Space and Water Heaters to the European Market

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 and other initiatives. As the EU works to achieve carbon neutrality by 2050, the market for heat pump space and water heaters is expected to expand as an alternative heating method to gas boilers.

Daikin released Daikin Altherma, a heat pump space and water heater, in Europe in 2006. Our goal is to supply and spread products suited to the climate and needs of each country, at affordable prices to many consumers, including installation work.

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.

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
2025	Launched Daikin Altherma 4H, which uses the low global warming potential refrigerant R-290



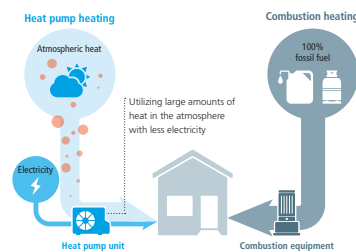
Daikin Altherma heat pump space and water heater for the European market

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 CO₂ emissions.

Heat Pump Heating and Combustion Heating Mechanisms



 Heat Pump (available in Japanese only)

<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/pdf/feature2022/env-pdf.pdf>

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 furnace 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 rebates to consumers who purchase heat pumps to electrify their home instead of space and water heating with gas and oil. The rebate program is run at the state level. Since heat pumps account for an increasing proportion of air conditioner shipments in the United States, Daikin will focus its efforts on proposing and promoting products using heat pumps. In particular, 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

Supported the Introduction of California's Heat Pump Adoption Target

The state of California in the United States has set a target to deploy six million heat pump units statewide by 2030. In response, Daikin announced in October 2023 that it would significantly increase its supply of inverter-type heat pumps to one million units. In May 2024, Daikin also announced five commitments outlining specific actions. Going forward, Daikin will work closer with California to achieve its target.

 **Daikin Announces Five Commitments to Accelerate California's Goal of Deploying Six Million Heat Pumps by 2030**

<https://www.daikin.com/press/2024/20240531>

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 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.

In fiscal 2024, we launched a new EcoCute model in September 2024 that improves the annual performance factor (APF) by up to 0.2 points compared to the previous model through improvements made to the insulation of the hot water storage tank.

Spreading Heat Pumps in Japan's Commercial Market


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.

Additionally, we commercialized and launched JIZAI HEAT, an industrial high-temperature water-output heat pump chiller that we developed as a carbon neutral measure for our own production plants. 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, CO₂ emissions and fuel costs can be significantly reduced. After introducing the system to the coating line at Sakai Plant's Rinkai Factory, we reduced annual CO₂ emissions by approximately 86%.* In fiscal 2024, in addition to our own Rinkai Factory, we have also installed three JIZAI HEAT units on the cleaning line at our Shiga Plant, and have begun test operations to make the plant completely boiler-free. Furthermore, we added an option to JIZAI HEAT that increases the maximum output temperature to 90°C. By enabling it to handle higher temperatures, JIZAI HEAT can more widely meet the demand for boiler replacement.

* Estimated annual CO₂ emissions and running costs based on measured data from November 2022 to March 31, 2023.



JIZAI HEAT installed at the Rinkai Factory

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

https://www.ac.daikin.co.jp/central/chiller/jizai_heat

Response to Climate Change

Reducing the Environmental Impacts of Refrigerants

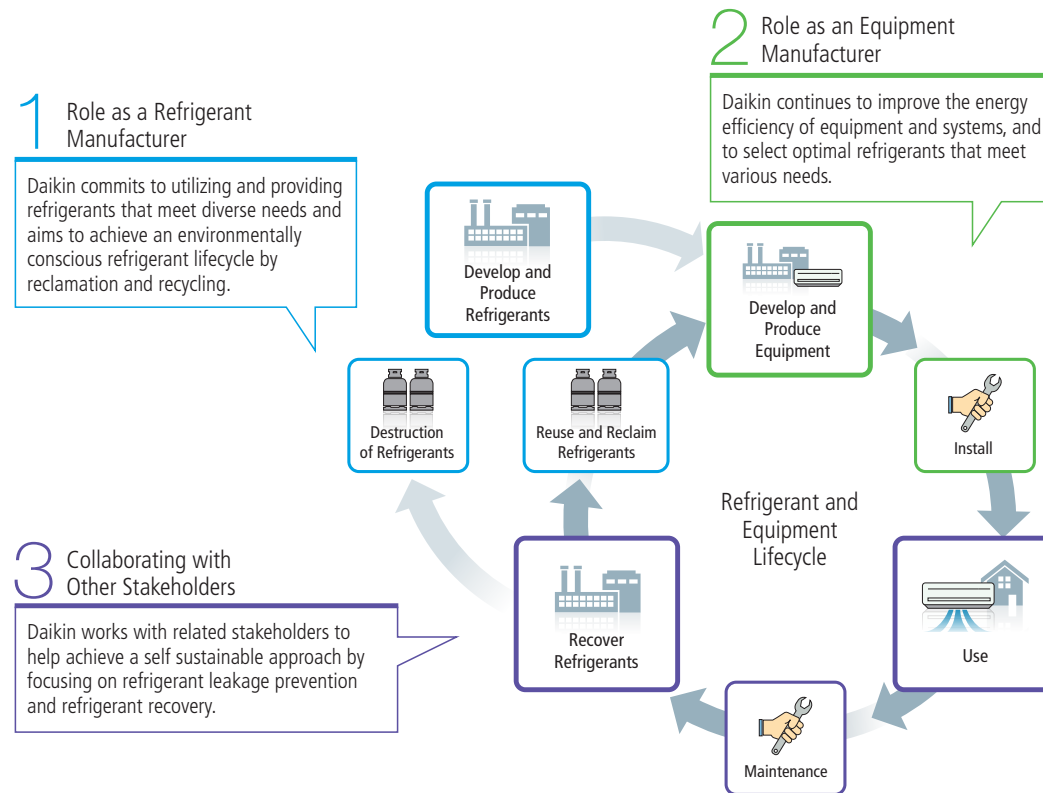
Reducing Environmental Impact of Refrigerants Throughout the Entire Life Cycle

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 CO₂.

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, from inspections and leak prevention and detection to recovery, recycle, reclamation, and destruction, 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 that service engineers 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.

Daikin's Action on Refrigerant and Goals



Please see below for our efforts with stakeholders to recover, recycle, reclaim, and destroy refrigerants.

[058 Environment Circular Economy Building a Refrigerant Eco-Cycle](#)

Approach to Refrigerant Selection

Selecting Refrigerants Using a Holistic Perspective

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 affects 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)



Selecting the Appropriate Refrigerant for Each Application

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 Direction for Mainstream Refrigerants

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 ₂ , Hydrocarbon
Residential Hot Water Supply Systems	Commercial Air Conditioners and Heat Pumps	Chillers and Heat Pumps
R-32, CO ₂	R-32	R-32, R-1234ze(E), R-1233zd(E), Other HFOs, HFO blends

Shifting to Refrigerants with Lower Environmental Impacts

Switching to Alternative Refrigerants that Do Not Deplete the Ozone Layer

In the 1980s, HCFCs used to be the most commonly used refrigerant, but experts suspected it was depleting the ozone layer, so under the Montreal Protocol adopted in 1987, 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.

Response to the Kigali Amendment

In 2016, at the 28th Meeting of the Parties to the Montreal Protocol, members voted to phase down the CO₂ 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 amount of HFC used 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. Developing countries are divided into two groups, with the first group scheduled to start the regulations in 2024 and the second group in 2028.

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 CO₂ 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 comprehensively and throughout the product life cycle 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 further reducing 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.

Actively Adopting and Promoting the 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 into the residential and commercial markets 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.

Cumulative Total of R-32 Air Conditioners Sold by Daikin (As of March 2025)

Over **58** million air conditioners sold worldwide
(Approx. 20.7 million in Japan and 37.3 million overseas)



As a result, Daikin has sold more than 58 million R-32 residential air conditioners worldwide. It is estimated that, including the products of other companies, the worldwide R-32 air conditioner market exceeds 370 million units, whose contribution to CO₂ emissions reduction is estimated at 590 million tons (calculated by Daikin as of March 2025).

Refrigeration Products Using Natural Refrigerants

In the refrigeration divisions, Daikin supplies specialized equipment 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 single-digit global warming potential in 2019. Following the adoption of CO₂ 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, in 2020, we have been promoting the use of natural refrigerants mainly in Europe, including the launch of a R-290 inverter monoblock refrigeration unit and CO₂ condensing unit

Initiatives During Production and Installation

Prevention of Leaks During Refrigerant Manufacturing

The chemical division's refrigerant production process generates refrigerant products and by-products. We are gradually installing recovery equipment in the production process and properly destroying the recovered by-products. We also take the fluorite generated during the destruction process and reuse it as raw material for the production of refrigerant and fluorochemical products. In fiscal 2022, we began full-scale operation of a new

incinerator at the Kashima Plant, increasing our refrigerant destruction capacity.

Prevention of Refrigerant Leaks During Air Conditioner Manufacturing

We strive to reduce the rate of refrigerant leaks in the air conditioner production process at our bases around the world. Certified workers thoroughly inspect for refrigerant leaks three times based on the work instruction manual. We also provide pertinent training to workers every year.

In the refrigerant charging process, we are improving the pipe couplers (joints) that connect the charging tool to the product, and adding a mechanism to recover refrigerant remaining inside the tool. We completed the addition of refrigerant recovery systems at our domestic residential air conditioner production lines by the end of fiscal 2024. By controlling refrigerant emissions from the process, we have reduced annual greenhouse gas emissions by approximately 760 tons.



Recovering refrigerant in the production process

Technical Development to Control Leaks

To connect the copper piping of the outdoor unit and indoor unit, flaring is generally used to expand the copper piping into a trumpet shape. However, flaring requires advanced construction techniques. Daikin developed a mechanical joint that does not require flaring because refrigerant may leak without it. This joint is now being used on its products, helping to stabilize the quality of installation work.

We are also developing technology for leak detection. We provide a service that remotely monitors the operating status of air conditioning equipment, and in the unlikely event of a leak, detects the leak quickly and notifies the administrator by email. We also implement leak prevention measures for our own research and development equipment, such as refrigeration units.

Response to Climate Change

Initiatives in Manufacturing (Development and Production) and Offices

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.

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. Also, we will promote energy creation and the greater introduction of renewable energy.

As of June 2025, Rinkai Factory at Sakai Plant, Daikin Air Conditioning (Shanghai) Co., Ltd., and Daikin Rexxam Electronics (Japan) Ltd. have achieved 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 CO₂ 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

[029 Feature 3 Working Toward Carbon Neutrality in Manufacturing](#)

Reducing Greenhouse Gas Emissions

Daikin emits three kinds of greenhouse gases during development and production processes: CO₂ from energy use, fluorocarbons, and non-energy CO₂ 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-CO₂ (17% reduction in comparison to fiscal 2019).

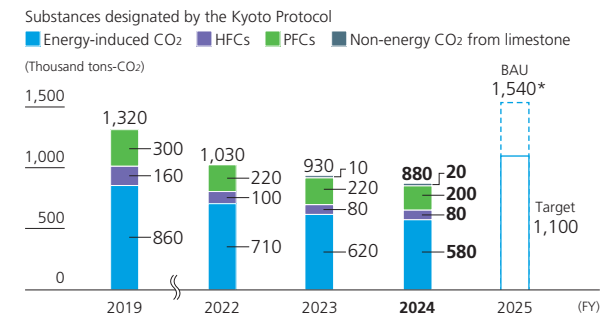
In fiscal 2024, our greenhouse gas emissions totaled 0.88 million tons-CO₂ (33% reduction in comparison to fiscal 2019) after we expanded purchasing of renewable energy. With regard to fluorocarbons, we focused on reducing the atmospheric emissions of HFCs during refrigerant charging in the air conditioning divisions and PFCs used as solvents in the chemicals divisions.

[177 Data Third-Party Verification Method of Calculating Greenhouse Gas Emissions Data](#)

See below for greenhouse gas emissions-related data

[159 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 CO₂


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 CO₂ emissions by improving energy efficiency during development and production processes.

As a result, in fiscal 2024, CO₂ emissions totaled 0.58 million tons-CO₂. We have made considerable progress in the installation of solar panels at our plants in China and Malaysia, and also in strengthening PFC recovery efforts at the chemicals division's plants.

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 energy-saving technologies. We are developing recent 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 high temperature water-output heat pump chiller, can significantly reduce not only CO₂ emissions but also fuel costs by replacing conventional combustion-type steam boilers and hot water heaters.

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

https://www.ac.daikin.co.jp/central/chiller/jizai_heat

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 47,974 MWh of electricity through solar power generation in fiscal 2024, which is equivalent to CO₂ emission reductions of around 26,000 tons-CO₂ (estimated by

Daikin). Globally, we have increased the share of renewable energy to 35%, beating the target of 10%. In fiscal 2024, we made considerable progress in the installation of solar panels at our plants in China and Malaysia. In China, we plan to introduce solar power generation systems at all of our air conditioning plants by 2025.



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

Initiatives in Offices

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.

 [042 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 Australia's current office is certified by NABERS as five out of six stars. In fiscal 2024, the Suzhou Device Development Center received LEED® Platinum certification and three-star status, the highest level of the Green Building Design Label.

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

Initiatives in Logistics Processes

We have set a goal to reduce CO₂ emissions in logistics processes (transportation, packaging and warehousing). In fiscal 2024, these emissions reduction totaled 1,970 tons-CO₂ compared to our target of 1,000 tons-CO₂. We are now promoting expanded modal shift and switching transport methods from trucks to freight trains and ferries. In fiscal 2024, our modal shift transition rate stood at 25%.

In fiscal 2024, we expanded cargo transport volume by ferry from our plants in the Kansai region to the Kyushu region by two times compared to the previous fiscal year. We also promoted the introduction of double-articulated trucks for land transport. At a new plant of Daikin Airconditioning Mexico, S. de R.L. de C.V., the pallet size was modified, improving loading efficiency by 40% and enhancing transportation efficiency.

Response to Climate Change

Initiatives for a Decarbonized Society

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 CO₂ from the atmosphere, and the development of recycling-oriented systems.

Examples of Initiatives

Creating Energy with Micro-Hydroelectric Power Generation

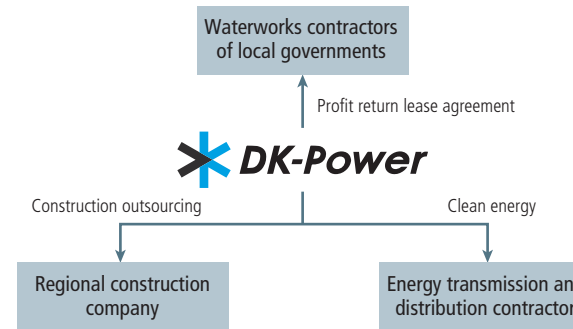
Daikin proposes micro-hydroelectric power generation systems for vertical pipes using its air conditioning and hydraulic machinery technologies to local governments. The system uses water flow from rivers, water supply and sewerage systems, and other sources to generate energy without emitting CO₂ during the power generation process. It is small and low-cost, and can be installed in large numbers even near urban areas. DK-Power, Ltd., a Group company that operates the business, installs the system at water facilities owned by local governments, manages and operates it, and sells the electricity generated.

As of March 31, 2025, these systems have been installed at a total of 60 locations nationwide in Japan, generating 47,000 MWh of electricity and reducing CO₂ emissions by 21,300 tons-CO₂. This is approximately equivalent to the electricity generated by our single plant in Japan.

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

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

Business Model Using Micro-Hydroelectric Power Generation System



Recycling CO₂ into Raw Material for Synthetic Resins

Daikin Industries, Ltd. and Doshisha University have discovered that carbide can be synthesized from CO₂ 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 CO₂.

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 CO₂ 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 CO₂. 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>

Topics

Investment in New Fund Established by Breakthrough Energy Venture

In April 2024, Daikin Industries, Ltd. invested in Breakthrough Energy Ventures Select Fund I, a new venture capital fund established by Breakthrough Energy Ventures (BEV).* This fund supports the social implementation of environmental technologies of startup companies aimed at achieving carbon neutrality. Through our investment in BEV, we aim to strengthen our research structure in climate tech and deepen collaboration with cutting-edge startup companies.

* A venture capital fund under Breakthrough Energy, which was established by Microsoft founder Bill Gates.

 Daikin Invests in Breakthrough Energy Ventures' New Fund to Accelerate Realization of Net-Zero Society

<https://www.daikin.com/press/2024/20240425>

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.

What Daikin Aspires For

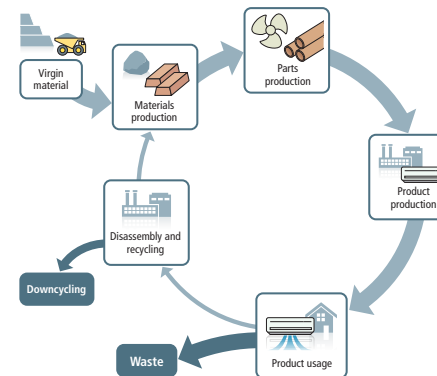
Daikin will always carry out all of its business activities in consideration of circularity throughout the value chain, from the procurement of raw materials to the design and production of products, usage by customers, and final disposal.

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 downcycling¹ to horizontal recycling² so that resources can be used effectively for as long as possible.

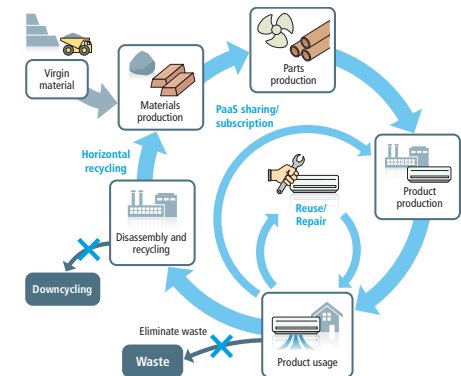
¹ Recycling in which used products and their components are transformed into products with a lesser value than their original product.

² 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.

Conventional Flow



Circular Economy Flow



Stakeholder Engagement

Daikin is participating in the formulation of the Global Circularity Protocol for Business (GCP), led by the World Business Council for Sustainable Development (WBCSD) and the United Nations Environment Programme (UNEP). The GCP is a corporate information disclosure framework aimed at realizing a circular economy. By providing a framework for measuring and managing corporate circularity, the GCP aims to accelerate the transition to a circular economy in a way that contributes to solutions to social challenges such as decarbonization.

[130 Social Stakeholder Engagement Participation in Initiatives](#)

Circular Economy

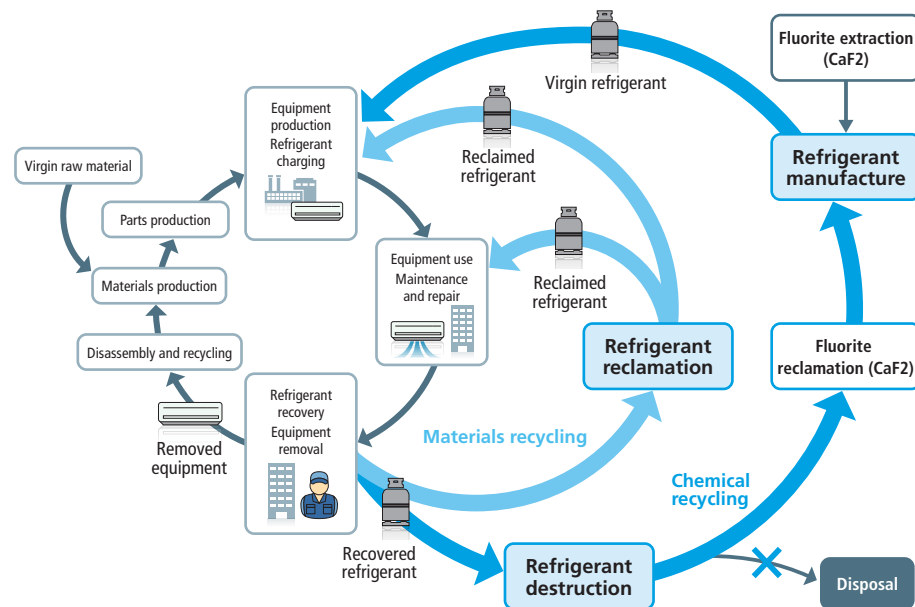
Building a Refrigerant Eco-Cycle

Basic Policy

Lifecycle Refrigerant Management (LRM) is garnering attention around the world for its importance in terms of reducing greenhouse gas emissions, recycling resources, and ensuring a stable supply of refrigerants. LRM refers to the responsible management of refrigerants used in air conditioners and refrigerating machines throughout their life cycle, from manufacture, charging, operation, maintenance, and recovery and reuse of refrigerants at the end of life, to destruction.

As a manufacturer of both equipment and refrigerants, Daikin believes it has a social responsibility to implement and spread LRM. Toward this end, we are promoting the establishment of a refrigerant eco-cycle (recovery, reclamation, and destruction) that forms a focal point of LRM.

Refrigerant Eco-Cycle



Establishing a Refrigerant Eco-Cycle in Japan

Japan already has a system in place for refrigerant recovery. Therefore, under this system, we aim to prevent leakage during air conditioner use, improve the national refrigerant recovery rate, increase the amount of reclaimed refrigerant, and efficiently implement LRM utilizing data.

Managing Refrigerant Leaks in Air Conditioners

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 free cloud-based service Daikin Fluorocarbon Check Tool (Dfct) that can inspect and manage commercial air conditioners compliant with the Act. Daikin Industries, Ltd. has operated and managed all equipment in-house using Dfct since fiscal 2018.

We have also developed technology to remotely detect refrigerant leaks, and incorporated a remote leak detection function into the Assinet Service, which supports the management of commercial air conditioning equipment, and the AIRNET Service System, which monitors the operating status. These can be linked to Dfct, and in the unlikely event that a refrigerant leak is detected, the administrator is notified by email. This remote leak detection function has been recognized as a statutory simple inspection method since fiscal 2022.

Daikin Fluorocarbon Check Tool (Dfct) (available in Japanese only)
<https://dfct.daikinaircon.com/>

Assinet Service (available in Japanese only)
https://www.daikincc.com/fcs/service/assinet_service/

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

Proper Treatment of Recovered Refrigerants at the Yodogawa Plant

At Daikin's Yodogawa Plant, recovered refrigerants are destroyed and the reclaimed fluorite obtained during this process is used as a valuable resource to make refrigerants and raw materials for fluorochemical products.

In December 2023, we established a new fluorocarbon reclamation facility at the Yodogawa Plant and obtained a license as a Class 1 Fluorocarbon Reclamation Business Operator. This has enabled us to reclaim materials into reclaimed refrigerants, which has a lower environmental impact than chemical recycling, and contribute to improving Japan's reclaimed refrigerant supply capacity. We have established an efficient system that can perform reclamation of recovered refrigerants (and destruction of refrigerants that cannot be recycled). In fiscal 2024, the facility reclaimed 31 tons of recovered refrigerants.



Fluorocarbon reclamation equipment



Reclaimed fluorite

LRM Data Network System

We have built an LRM data network system that can centrally manage information on the entire process from refrigerant recovery to reclamation and destruction. Aiming to promote resource circulation and reduce greenhouse gas emissions, this system will collect and manage the amount of refrigerant charged, recovered, reclaimed, and destroyed for a period of 10 to 20 years from the time commercial refrigeration and air conditioning equipment is installed until it is removed, with the participation and cooperation of all parties involved. The system will also contribute to thorough management in compliance with the Act on Rational Use and Proper Management of Fluorocarbons and the efficiency of legal affairs for charging, recovery, recycling, reclamation, and destruction contractors.

Building and Strengthening a Refrigerant Recovery, Recycling, Reclamation and Destruction Network

The Daikin Group in Japan recovers refrigerants that are no longer needed when equipment is repaired or removed in partnership with its own service departments, sales companies, and installation partners. The Daikin Contact Center in Japan accepts requests from dealers and others to pick-up recovered refrigerants 24 hours a day, 365 days a year.

We have built a nationwide network for the proper treatment of recovered refrigerants that begins with our Yodogawa Plant and Kashima Plant, which are licensed under the Act on Rational Use and Proper Management of Fluorocarbons, and extends to refrigerant recycling contractors, refrigerant destruction and treatment contractors, and businesses licensed under the Act. Using this network, we treat the end-of-life refrigerants at the treatment facility closer to the recovery site.

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

[158 Data ESG Data Environment Mitigating Environmental Impacts in the Value Chain](#)

Topics

Establishment of a System for Refrigerant Recovery and Reclamation Using Our Nationwide Network

In January 2025, Daikin established a system for service engineers to reclaim and reuse recovered refrigerants at all 60 service stations across Japan. We have been building out this system following the Kigali Amendment that came into effect in 2019, with the system now covering Okinawa and Hokkaido. This marks the first time in the industry that refrigerant recovery and reclamation have been made available at nearby locations nationwide.

Switching to reclamation of recovered refrigerants, which previously had to be destroyed, has reduced emissions by 4,485 tons-CO₂ per year (fiscal 2024 results).

Training Technicians for Refrigerant Recovery and Charging and Reliable Installation

Daikin provides training to its employees and business partners that covers the specialist knowledge and techniques required for refrigerant recovery and charging.


In Japan, we hold training sessions and seminars to develop qualified personnel in relation to the Act on Rational Use and Proper Management of Fluorocarbons. At the same time, we are also working to enhance the curriculum of our training programs for technicians by creating videos that explain standard installation and key points of brazing work. The curriculum of these domestic training programs is shared with our global bases around the world in an effort to train technicians who perform air conditioning related installation work.

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

Name of training	Target	Number of participants in FY2024
Refrigerant Recovery Technician preparatory workshop	All employees in Japan handling refrigerants	2,208
First and Second Grade Refrigerant Fluorocarbons Handling Technician preparatory workshop	All employees in Japan handling refrigerants	4,525

Technical Development Making the Detection and Identification of Refrigerant Leaks Easier

Daikin is conducting R&D for improving the accuracy of leak detection in order to minimize the amount of 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 Agency. We are working on the practical application of this technology.

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

<https://www.daikin.com/press/2023/20231115>

Global Initiatives

Building a Refrigerant Recovery, Reclamation, and Destruction in Europe and the United States

In Europe, demand for reclaimed refrigerants is increasing from the perspective of a circular economy and stable refrigerant supply. Daikin is strengthening its scheme to recover refrigerants from used air conditioners on the market and reclaim and reuse them. Daikin Refrigerants Frankfurt GmbH has added a reclamation plant to its destruction plant in Germany. Daikin Europe N.V. also promotes the refrigerant recovery and reclamation program "Loop by Daikin" and sells VRVs and chillers that use reclaimed refrigerants.

In the United States, we are establishing and expanding a scheme to recover refrigerants from residential air conditioners, using the Group's distributors as refrigerant recovery bases.

Supporting the Recovery, Reclamation, and Destruction of Refrigerants in Other Regions

Most emerging countries do not have laws requiring the recovery of refrigerants when equipment is removed, and they lack the systems and infrastructure for the recovery, reclamation, and destruction of refrigerants. As a result, in emerging countries, Daikin cooperates with the Japanese government, national governments, international organizations, and other stakeholders to create refrigerant recovery, reclamation, and destruction schemes.

In fiscal 2020, we established our own recovery 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. In Malaysia, we began working with Iwatani Malaysia Sdn. Bhd. in August 2024 to begin refrigerant recovery and reclamation efforts locally. We are also considering refrigerant recovery schemes in other countries, including Thailand, Indonesia, and India.

See below for our cooperation with environmental policy planning

 [128 Social Stakeholder Engagement Dialogue with Governments, International Organizations and NGOs](#)

See below for information about our initiatives to reduce the environmental impacts of refrigerants

 [050 Environment Response to Climate Change Reducing the Environmental Impacts of Refrigerants](#)

Circular Economy

Circular Product Design and Service Creation

Basic Policy

Daikin strives to design products and create 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

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

 [038 Environment Environmental Management Environmentally Conscious Design](#)

Reducing Rare Earth Usage

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 Outcomes Related to Resource Conservation and Recycling in Fiscal 2024

Category	Outcome
Residential air conditioners	<ul style="list-style-type: none"> Expanded use of compressor models that use heavy rare earth-free magnets. Use of terbium-free dysprosium diffusion magnets in all products.
Commercial air conditioners	<ul style="list-style-type: none"> Some VRV models released in 2025 will have an average weight reduction of 6% through improved control. Some machi Multi models released in 2025 will have a 3% weight reduction through component changes. Some VRV models will be equipped with newly developed stainless steel piping technology, reducing the amount of copper piping used. The exterior parts of the BS unit* of the 2025 model will be changed from sheet metal to recyclable resin.
ECOCUTE	<ul style="list-style-type: none"> For models released in fiscal 2024, the outdoor unit was made smaller by improving the insulation performance of the tank.
Others	<ul style="list-style-type: none"> Searched for new resin manufacturers to ensure stable procurement of recycled resin. Established a scheme to use recycled aluminum for heat exchanger fin materials.

* BS unit: A device used to switch between heating and cooling modes in a multi-split type air conditioning system for buildings.

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. A major feature of this business in terms of resource circulation is that it can directly recover resources used in the equipment. Air conditioners are made from many metals such as copper and aluminum. Furthermore, if an air conditioner breaks down and is left unattended, the refrigerant inside the device will leak into the air, contributing to global warming. In this business, Daikin owns the air conditioner outright, so both the equipment and the refrigerant can be reliably collected after use.

Energy management can also lower air conditioner electricity consumption and greenhouse gas emissions, and maintenance can prevent refrigerant leaks.

 [073 Social Value with Air](#)

Initiatives During Use and Repairs

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

This is a maintenance service that improves durability and extends the lifespan of Daikin's multi-split type air conditioners for commercial buildings that have been in use for about eight years by replacing the retrofit compressor with a new energy-saving refrigerant control system. This conserves resources, as it only requires replacing parts instead of updating the main unit itself. In addition, optimally adjusting the refrigerant temperature according to the load makes it possible to reduce power consumption by about 13% compared to updating the main unit itself.

Overhauls

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.

Initiatives During Transport

Reducing Packaging Materials

Daikin has established a target to reduce CO₂ emissions related to packaging design by 600 tons-CO₂ compared to fiscal 2020 in fiscal 2025 by developing environmentally conscious packaging.

In fiscal 2024, we established a target of 480 tons-CO₂ and achieved a reduction of 518 tons-CO₂ after working to lower the usage of polystyrene foam, which has high CO₂ emission coefficient, and wood, which weighs a lot. We will continue working toward eventually eliminating our use of polystyrene foam to rein in any increases in our total use of packaging materials.

Topics

Received Two Awards at the Japan Packaging Contest 2024

Two Daikin products won awards at the Japan Packaging Contest 2024 organized by the Japan Packaging Institute.

Industrial Packaging Award: Elimination of Adhesive for Packaging for Ceiling Suspended Air Conditioners*

Improvements were made to the packaging material for the indoor unit of commercial ceiling suspended air conditioners for overseas markets to make them recyclable, resulting in an annual reduction of 193 tons-CO₂. Previously, the packaging involved attaching polystyrene foam and plywood to cardboard using hot melt adhesive. By devising a new valve structure that does not require adhesive and application to cardboard, we have made it easier to separate the packaging and reduced the amount of wood used.

This technology also won the World Star Award at the World Star Competition 2025 hosted by the World Packaging Organization (WPO).

* Award received by Daikin Industries, Ltd. and Oji Container Co., Ltd.

Large and Heavy Duty Packaging Award: All-Corrugated Board Top Tray for Commercial Type Air Conditioner Outdoor Unit*

This all-corrugated board top tray for the outdoor unit of commercial air conditioners adopts a novel cardboard structure design that reduces CO₂ emissions equivalent to 65 tons annually. Although the structure change results in a larger amount of cardboard usage, the top tray no longer uses styrene foam and plywood as before, resulting in 40% less mass.

* Award received by Daikin Industries and Rengo Co., Ltd.

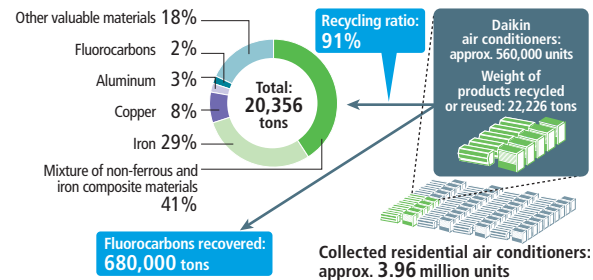
Promoting Recycling

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 2024, we recovered about 560,000 units totaling 22,226 tons. The recycling ratio was 91% and the amount of fluorocarbons recovered was 680,000 tons-CO₂.

Recycling of Residential Air Conditioners in FY2024 (Japan)



See below for our home appliance recycling results

<https://www.daikin.com/csr/environment/recycling>

Fluoro-resin Recovery and Recycle Business

Daikin aims to recycle fluorine materials in all production processes. As part of this, we have begun full-scale development of chemical recycling technology to return fluoro-resin to fluorite and monomers, the raw materials for fluorine materials. Daikin Compounding Italy collects waste and cutting scraps from the molding and processing of fluoro-resin and super engineering plastics, including those from other companies. We recycle the waste at our own facilities and sell it as materials for packings, seals, tubes, and pipes.



Recovered PTFE raw materials for recycle

Circular Economy

Reducing Emissions

Basic Policy

As part of its efforts to move toward a circular economy and society, Daikin is working to reduce waste from production processes and recycle waste that is generated. We aim to minimize waste and maximize the value of resources.

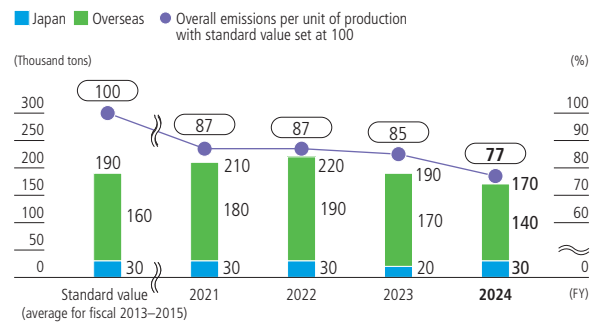
Waste Reduction in Production Processes

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, in Japan, we are reviewing the production process and equipment renewal, as well as making improvements in packaging for the transport of components.

In fiscal 2024, we achieved a 23% reduction compared to the baseline.

* Average emissions between fiscal 2013 and fiscal 2015.

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 they focus on thoroughly separating and recycling waste plastics and plastic pallets generated during production. The recycling rate has been steadily improving in each business. In fiscal 2024, the recycling rate for plastics generated from our domestic air conditioning business was 43.5%, an improvement of 10.5 percentage points over the previous fiscal year.

In fiscal 2024, the Daikin Group in Japan generated 7,059 tons of waste plastics.*

Going forward, we will continue to work to reduce these emissions and recycle plastics as resources.

* Includes in-house processing and excludes other valuable materials.

See below for Daikin's resource recycling initiatives

[061 Environment Circular Economy Circular Product Design and Service Creation](#)

See below for our conservation of water resources

[066 Environment In Harmony with Nature Water Resource Conservation](#)

In Harmony with Nature

Daikin's Approach to Natural Capital

Basic Policy

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 through their business activities, set targets, and disclose their progress.

Daikin is working to minimize the negative impacts of its business activities on climate change, water resources, and biodiversity through its environmental management system. Working with various stakeholders to maintain the balance of precious natural environments and ecosystems around the world and restore their abundance will enable Daikin to contribute to the realization of a world in harmony with nature.

[032 Environment Environmental Management](#)

[069 Environment In Harmony with Nature Protecting Biodiversity](#)

Dependencies and Impacts on Natural Capital from Our Business Activities

In response to climate change, Daikin is taking action and disclosing information based on the recommendations of the TCFD. With regard to biodiversity, we are working to disclose information in accordance with the guidelines of the Task Force on Nature-related Financial Disclosures (TNFD), identifying nature-related dependencies and impacts of our overall business activities, sorting out risks and opportunities, and promoting comprehensive assessment and management.

In fiscal 2024, we assessed our impacts on nature other than climate change using the Biodiversity Risk Filter developed by the World Wide Fund for Nature (WWF) to evaluate items closely related to the Group's business. Although our dependencies on natural capital were generally low, we found that our dependencies on "water usage" were high and our impacts on "pollution" were also high.

Regarding water usage, an item closely related to the Group's business, we consider the impact of water shortages on plant operations to be a risk. We have identified production bases in areas of high water stress using the water risk map of the World Resources Institute (WRI) called Aqueduct covering the direct operations of all our businesses. We are working to use natural resources sustainably, including by taking measures to prevent depletion in areas of high water stress.

In terms of pollution, we are working to prevent air and water pollution by striving to reduce emissions and manage and reduce chemical substances at each production base.

[064 Environment Circular Economy Reducing Emissions](#)

[066 Environment In Harmony with Nature Water Resource Conservation](#)

[067 Environment In Harmony with Nature Management and Reduction of Chemical Substances](#)

In Harmony with Nature

Water Resource Conservation

Basic Policy


Recognizing that water is an important resource that is closely related to climate change and biodiversity, Daikin strives to use it in a sustainable manner. We are strengthening controls of water usage at our production bases around the world and reducing water intake by reusing wastewater as much as possible. We are also identifying bases with water risks and working on measures to conserve water resources throughout the entire value chain.

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.

 [Green Procurement Guidelines](https://www.daikin.com/csr/social/green_gl)
https://www.daikin.com/csr/social/green_gl

Identifying and Addressing Water Risks

Daikin has investigated areas of water stress around its production bases using the water risk map of the World Resources Institute (WRI) called Aqueduct. 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 are now reducing water intake, utilizing rainwater, and recycling water, along with formulating a business continuity plan (BCP) in case water shortages impact operations.

Initiatives at Daikin Device (Xian)

As a preventive measure against water shortages, Daikin Device (Xian) has installed three filtration devices to reuse the water used in the inspection process.

Initiatives at Daikin Airconditioning India

Daikin Airconditioning India has installed a water recycling system using RO membranes. This system is used in the cleaning process before outside panel coating, for operational inspections, and for watering.

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

 [160 Data ESG Data Environment Reducing Environmental Impacts of Business Activities](#)

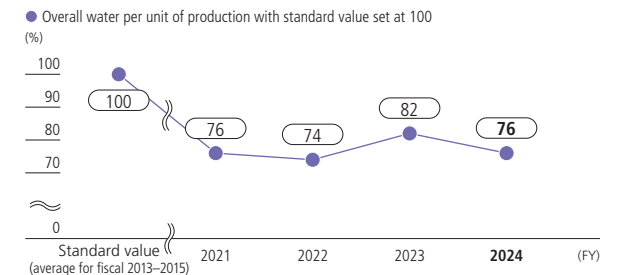
Water Intake Reduction

Reducing Water Intake per Unit of Production

At Daikin's production base, we have established a goal of reducing water intake per unit of production by 10% in fiscal 2025 compared to the baseline.* For example, we reduce water intake volumes by purifying and reusing wastewater that has been used for cleaning and cooling. In fiscal 2024, we achieved a reduction of 24% compared to the baseline

* Average water intake between fiscal 2013 and fiscal 2015.

Water Intake per Unit of Production



See below for our water intake and discharge amounts, Chemical Oxygen Demand (COD) emissions

 [160 Data ESG Data Environment Reducing Environmental Impacts of Business Activities](#)

Engagement with Stakeholders

Daikin discloses information about our water-related initiatives. For example, at our plants in Japan, we hold regular meetings with local residents every year to report on our water-related initiatives and hold discussions.

In Harmony with Nature

Management and Reduction of Chemical Substances

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,² and other laws. These are stated in our Green Procurement Guidelines and we work to prevent the presence of these chemicals in our products.

¹ 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.

² 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.

[122 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

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



Management and Reduction of Chemical Substances During Production

Establishing Reduction Targets for PRTR-Regulated Substances and VOC

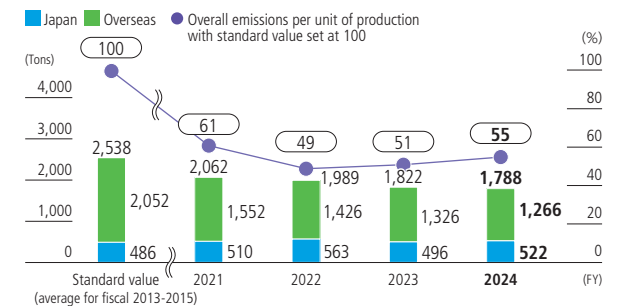
Each Daikin business base in Japan and overseas is making efforts to reduce a variety of chemical substances. They are also working continuously to increase the recovery rate and ensure the appropriate treatment of target substances.

We are working toward a target of reducing emissions per unit of production (total of PRTR¹ substances and VOCs) in fiscal 2025 by 10% compared to the baseline.² In fiscal 2024, we achieved a 45% reduction against the standard value.

¹ Act on the Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management Improvement

² 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

[161 Data ESG Data Environment Reducing Environmental Impacts of Business Activities](#)

Daikin's Approach to PFOA

Daikin has ceased the manufacture and use of perfluorooctanoic acid (PFOA) as of the end of calendar year 2015. Our Yodogawa Plant (Settsu City, Osaka Prefecture, Japan) has voluntarily 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. Starting in 2023, we began construction of a water-impermeable wall around the perimeter of the Yodogawa Plant to ensure any PFOA is contained on site.

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)

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

Daikin's Approach to PFAS

At its chemical plants, Daikin 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 will consider new technologies and practices to help ensure the safe manufacture and use of our chemical products.

 [Daikin's Approach to PFAS](https://www.daikinchemicals.com/sustainability/pfas.html)

<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

 [161 Data ESG Data Environment Reducing Environmental Impacts of Business Activities](#)

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. We hold disaster prevention drills at least twice a year at all domestic manufacturing sites. By conducting drills simulating the leakage of oil or chemical substances, we ensure that measures are taken to prevent actual leakage into the soil or wastewater.

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.

In Harmony with Nature

Protecting Biodiversity

Basic Policy

To achieve nature positivity, Daikin strives to minimize the negative impacts of its business activities on biodiversity, while at the same time working to maintain the balance of precious natural environments and ecosystems around the world and restore their abundance.

Biodiversity and Climate Change

Biodiversity is seriously affected by the loss of habitats and the destruction of ecosystems caused by climate change, which means that climate change countermeasures are essential to realizing a world that is in harmony with nature. Daikin considers climate change to be a top priority and believes that it is most important to minimize impacts on biodiversity by reducing greenhouse gas emissions throughout all of its business activities, including product development, production, transportation, sales, and service. Similar to carbon neutrality, it is important that biodiversity conservation be addressed throughout the entire supply chain. Daikin asks its suppliers to consider and address biodiversity in its Green Procurement Guidelines and Supply Chain CSR Promotion Guidelines.

[014 Management Daikin's Sustainability Identifying Material Initiatives](#)

[039 Environment Response to Climate Change Challenge to Achieve Carbon Neutrality](#)

[119 Social Supply Chain Management](#)

Basic Policy of Protecting Biodiversity

In September 2010, Daikin established its Basic Policy on Protecting Biodiversity. Based on this policy, we will reduce greenhouse gas emissions from our business activities, which have a particularly large impact on biodiversity. We will also promote efforts to protect and restore nature outside of our business operations.

Basic Policy of Protecting Biodiversity

We act for the sake of abundant greenery and fresh air.

Thinking Behind Our Basic Philosophy

Our society is built upon the many blessings that nature gives us. The source of these blessings is biodiversity. The loss of this biodiversity would hurt our water, food, and other aspects of our life.

Daikin's business also has a major effect on biodiversity through our contribution to global warming.

To contribute to a sustainable society, we strive to reduce our contribution to global warming throughout our business activities, and to maintain balance in ecosystems so that we can help bring back the abundance of the natural world.

Main Efforts

1. We are committed to promoting efforts to mitigate global warming from the perspective of biodiversity as well.

- Reduce greenhouse gas emissions throughout our entire business activities, including product development and production, transportation, sales, service, and the supply chain.

2. As a member of the community living in the bounty of nature, we work with our employees to promote initiatives to protect and regenerate nature.

- In the countries and regions in which we do business, we work with governments, residents groups, NPOs, and NGOs in efforts including the protection and rejuvenation of nature.
- We create new forests on our premises.
- We support employees in their volunteer work.
- We provide the public with information and education.

(Established September 2010)

Efforts at Bases

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

Employees have taken the lead in recreating the region's original satoyama landscape in the Daikin Shiga Forest biotope located on the premises of our Shiga Plant. In addition to continuing to eradicate invasive species, conserve and maintain native species, and conduct biological monitoring surveys, the biotope is also used as a place for environmental learning for local elementary school students. In recognition of these efforts, the biotope was certified as a Nature Coexistence Site by the Ministry of the Environment in November 2024.



Environmental learning and tree planting



Ministry of the Environment Nature Coexistence Site logo

Nature Forest at Yodogawa Plant

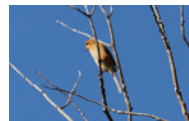
We are actively managing the forest at the Yodogawa Plant, which was created in 2015, with the aim of recreating the satoyama landscape of Hokusetsu. We started developing a habitat for fireflies in 2017 and confirmed a population of over 300 in two consecutive years since 2023. Ten years after its creation, the forest is growing into a rich nature preserve for the Yodo River basin as an all new ecosystem. The forest has become a habitat and a stopover for a variety of fauna, including peregrine falcons, Chinese windmill, Japanese silvereye, damselfly, and raccoon dogs. In fiscal 2024, we confirmed sightings of band-winged grasshopper and other organisms that prefer riverbanks, woodpeckers



Japanese silvereye



Damselfly



Bull-headed shrike

such as Japanese pygmy woodpecker and great spotted woodpecker, and carnivorous wild birds, such as bull-headed shrike.

Biodiversity Conservation at the Sakai Plant's Biotope

Sakai Plant established a biotope in 2012 with the aim of creating a home for living organisms. Since then, 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.

In fiscal 2024, the Kanaoka Factory formulated an action plan for biodiversity conservation through to 2030. We have also begun the Kanaoka Minami Daikin Forestation project in collaboration with a nearby elementary school.



Forestation work with local elementary school students

Daikin Ales Aoya Training Center Works to Protect and Rejuvenate 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, 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.



Daikin Ales Aoya (overview)



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

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 2024, a total of 95 people including employees and their families participated in the activities.

* 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 Europe N.V.
Nature observation event



Daikin Airconditioning (Thailand) Ltd.
Tree planting in the community

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 CO₂ 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 have strengthened our support in Hokkaido’s Shiretoko, Indonesia, India, China, and the Amazon River Basin, and re-launched 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>

Initiatives in Shiretoko, Japan

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, one of the areas receiving assistance as part of the “Forests for the Air” project. 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 2024, a total of 245 employees had participated in reforestation efforts.



Daikin volunteers (September 2024)



Daikin volunteers (February 2025)

Initiatives in the Amazon Basin

The Amazon plays an important role in regulating temperatures globally because it is the location of the world’s largest tropical rainforest, which also happens to be one of the most diverse habitats on Earth. However, the forests of the Amazon are deteriorating due to development, slash-and-burn agriculture, and wildfires. In each case, social issues such as poverty are the underlying causes.

In response, Daikin began providing support in the Amapa region of Brazil, located in the Amazon basin, in 2014. Daikin also started providing support in Bolivia in fiscal 2024. Working alongside international NGO Conservation International (CI), Daikin strives to conserve forests and support local residents.

Deforestation disproportionately affects indigenous peoples, whose livelihoods depend heavily on forest

resources for hunting, gathering, agriculture and fishing, and for their culture and spiritual life.

In Bolivia’s Madidi National Park, we introduced agroforestry, encourage the processing and sale of agricultural products, and promote ecotourism in the Tacana community living on the southern edge of the park. We also support women’s capacity building based on the idea that sustainable forest stewardship can only be achieved with the local community playing a key role.



Visit to a Tacana community

Initiatives in Sichuan Province, China

Hongya, the beneficiary of assistance in Sichuan Province, China, is a biodiversity hotspot and part of the Giant Panda National Park. Through technical support for sustainable forestry stewardship and the promotion of ecotourism, Daikin aims to create an environment where people and nature can coexist.



Commemorative ceremony held locally