



*The Air You Live in*

# Sustainability Report **2017**

Fiscal Year Ended March 31, 2017

# *The Air You Live in*

Air is something that surrounds us 24 hours a day.

In fact, our existence, as well as the Earth's, depends on it.

At Daikin, the future of the world's air is our greatest concern.

We use the knowledge, innovation and technologies,

dedicated to air, cultivated over many years,

to improve the quality of air we breathe

and the quality of lives we live.

This is our mission.





## CONTENTS

Our Message / Contents .....1

### CSR and Management Strategy

Daikin Group Business Overview .....3  
 Message from the President .....5  
 Daikin's Sustainability .....7  
 Value Chain and Daikin's CSR .....9  
 CSR Targets and Achievements .....11

### CSR for Value Provision .....13

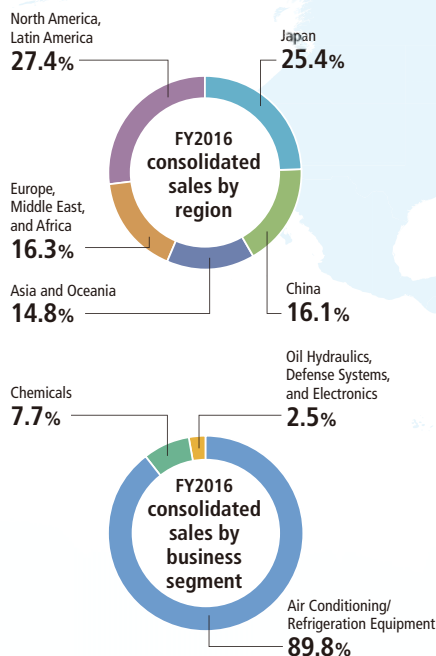
Environment .....15  
 New Value Creation .....17  
 Customer Satisfaction .....19  
 Human Resources .....21

Community Topics .....23

Data .....25  
 Third-Party Verification Statement .....27  
 Honors for Daikin .....28  
 About This Report .....29  
 Company Information .....30

# Bringing the World Healthy, Comfortable

The Daikin Group is a global manufacturer with overseas sales accounting for more than 70% of the group total and overseas employees accounting for 80% of the workforce. In our businesses of air conditioning and fluorochemicals, we respond to the needs that arise from the diverse cultures and values of the world's countries and regions by providing products that make people and space healthier and more comfortable. Leveraging our strength in energy-efficient technologies, we develop and provide products and services that contribute to reducing CO<sub>2</sub> emissions, a cause of climate change. In addition, we contribute to sustainable development by providing our employees around the world with a working environment conducive to maximizing their unique personalities and motivation.



## Europe, Middle East, and Africa

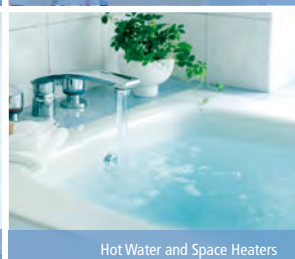
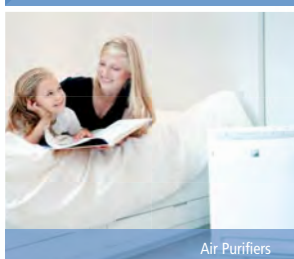
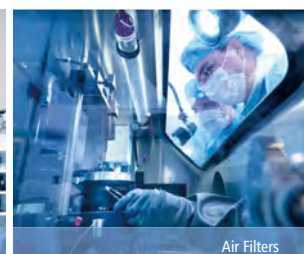
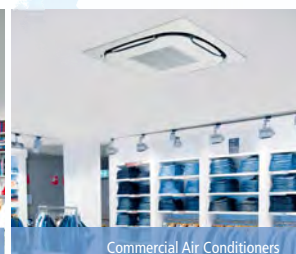
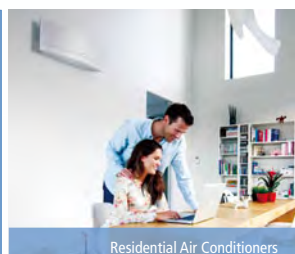


## North America, Latin America



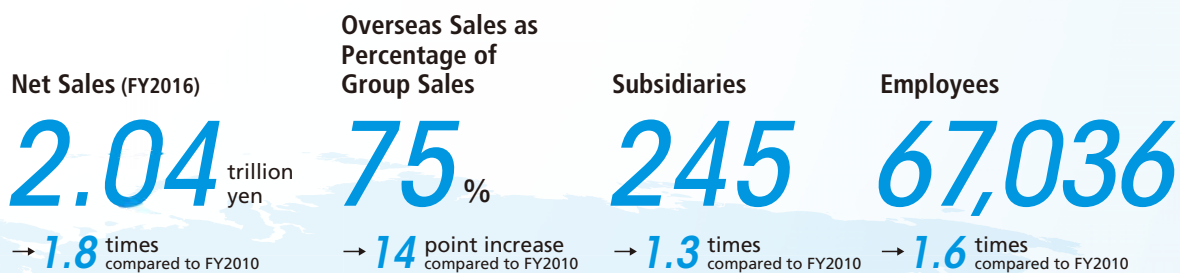
### Air Conditioning/Refrigeration Equipment

Achieving Both Comfort and Environmental Performance to Meet All Global Air Conditioning Needs





# Lifestyles



## China

**33**  
Subsidiaries  
**19,391**  
Employees



## Japan

**28**  
Daikin Industries and subsidiaries  
**11,734**  
Employees



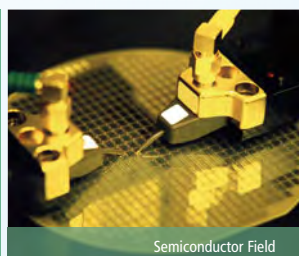
## Asia and Oceania

**39**  
Subsidiaries  
**12,208**  
Employees



### Chemicals

Utilizing the Characteristics of Fluorochemicals and Contributing to a Wide Range of Fields



Semiconductor Field



Automotive Field



Information and Telecommunication Field

### Oil Hydraulics, Defense Systems, and Electronics

Proprietary Technologies at Work in a Range of Industries, IT Solutions



Machine Tools



In-Home Medical Equipment



IT Solutions

# Use Air- and Environment-related Technologies to Realize Both Solutions to Social Issues and Business Growth



Fiscal 2016 was the first year of Daikin's Fusion 20 strategic management plan to fiscal 2020. It was a year in which we made a strong start towards the plan's targets as we implement measures towards future growth including the establishment of a new production base in the key U.S. market and acquisitions of companies that will expand our filter business.

## Reducing Environmental Impact through Energy-efficient Air Conditioners

Air conditioners—Daikin's main product—were originally invented in the early 20th century and they went on to spur a revolution in labor and lifestyles in hot regions while contributing to economic growth and a better quality of life. But the proliferation of air conditioners has led to higher electricity consumption and contributed to environmental problems, in particular climate change.

Daikin has strived to solve these problems by reducing the environmental impact of air conditioners through the worldwide adoption of products using energy-efficient inverter technology and HFC-32, a refrigerant with low global warming potential. Since their market introduction in 2012, HFC-32 air conditioners have sold 10 million units worldwide and, combined with inverter technology, have contributed to a reduction of 45 million tons-CO<sub>2</sub>. This is equivalent to half the amount of CO<sub>2</sub> emitted by passenger cars in Japan in one year.

### Fusion 20 Strategic Management Plan

Co-create New Value in the Air and Environment Fields with Wisdom and Passion

- Strengthen Existing Businesses
- New Business Domains and New Business Structure
- Create More Sophisticated Technologies and Production Methods
- Create More Sophisticated Management Control
- Implement a Unique Daikin Philosophy

## Providing New Value through Technology

Under our Fusion 20 strategic management plan, we are focusing on not only reducing the environmental impact of air conditioning but also on revolutionizing new technologies that create new value in air conditioning. Besides providing systems that give greater energy efficiency throughout entire buildings and cities, we are creating new value in the form of health and comfort for people and space by, for example, removing pollutants from the air and providing room air that improves people's concentration and helps them recover from fatigue faster.

At the TIC, Technology and Innovation Center, the hub of our research and development efforts, we energize our R&D through collaboration with numerous outside organizations. We are taking on new research themes related to people and the air around them; for example, research into air and space that raises intellectual productivity and research into using scientific technologies to give on-screen data that shows how air environments effect on human health.

With our new production base in the U.S. now operating, we will minimize our environmental impact and provide products geared to the needs of the North American market. Similarly, we will use facilities such as our North America R&D center and our Silicon Valley technology office to integrate air conditioners with state-of-the-art Internet of Things (IoT) and artificial intelligence (AI) technologies with the goal of creating new value for our customers.

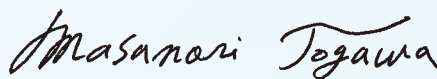
## A Workplace Where Diverse Human Resources Can Flourish

Creating new value in the field of air conditioning comes down to each one of our 67,000 employees worldwide. The Daikin Group positions People-Centered Management

as the source of its competitive strength. We pursue diversity management to give diverse human resources an opportunity to flourish, and to this end we strive to build workplaces where employees can maximize their potential. The air conditioning market is expected to expand in countries like Thailand and India. With this in mind, we are fostering the human resources who will drive air conditioner adoption in these countries by providing technology education to students and other young people.

Daikin takes part in the United Nations Global Compact, an initiative to promote the implementation of 10 universally accepted principles in the four areas of human rights, labor, the environment, and anti-corruption. We also do everything possible to ensure that our activities are sound, transparent, and ethical throughout the entire value chain.

As a corporate group that co-creates new value in the air and environment fields, we will meet the expectations of customers, shareholders, procurement business partners, community members, and all of our other stakeholders as we provide society with solutions and grow our business.



**Masanori Togawa**  
President and CEO  
Daikin Industries, Ltd.

### Fiscal 2016

Net Sales

**2.04** trillion yen

Contribution to Greenhouse  
Gas Emission Reductions

**45** million tons-CO<sub>2</sub>

2016

### Fiscal 2020 Goals

Net Sales

**3** trillion yen

Contribution to Greenhouse  
Gas Emission Reductions

**60** million tons-CO<sub>2</sub>

2020

Fusion 20 Co-create new value in the air and environment fields



# Creating New Value and Contributing to Sustainable Development for Society

Problems such as climate change and changing demographics are presenting our advancing global society with many challenges. The Daikin Group aims to contribute to the realization of a sustainable world by solving social problems and providing society with new value.

## Increasingly Growing Global Issues

Our global society faces numerous challenges that require us to meet more diverse needs and change our awareness.

### International Framework for Taking on Society's Challenges

United Nations Global Compact (UNGC)

Sustainable Development Goals (SDGs)

Meeting of the Parties to Paris Agreement (COP21)

Kigali Amendment to the Montreal Protocol

### Social Issues That Daikin Can Help Solve

Increasing severity of climate change

Expansion and concentration of energy and electricity demand

Increasing severity of atmospheric pollution

Shortage of human resources to support sustainable development

Deforestation and degradation of forests

## Daikin's Business

We are a global company that operates on the three business pillars of air conditioning, chemicals, and filters.

### Basic Management Policy

#### Corporate Policies

1. Absolute Credibility
2. Enterprising Management
3. Harmonious Personal Relations

#### Our Group Philosophy

The basis for the shared thoughts and actions of all employees

#### Fusion 20 strategic management plan

Co-create new value in the air and environment fields with knowledge and passion.

### Daikin's Three Business Pillars

#### Air conditioning

We handle all types of air environments, including air conditioning equipment and refrigeration equipment, with the aim of providing both environmental performance and comfort.

#### Chemicals

Utilizing our expertise in fluorochemicals, we contribute to a wide range of fields including semiconductors, automotive, and information and telecommunications.

#### Filters

We contribute to preventing atmospheric pollution and improving indoor environment air quality through, for example, dust collection filters and high-performance filters.



## Daikin's Aims for Value Creation

Provide new value that makes people and space healthier and more comfortable while at the same time reducing environmental impact.

It is common knowledge that air conditioners consume large amounts of electricity and therefore have a huge environmental impact, particularly with regards to climate change. At the same time, the dissemination of air conditioners has spurred a revolution in labor and lifestyles in hot regions while contributing to economic growth and a better quality of life for the people there. The Daikin Group brings new value to people by helping create healthy, comfortable spaces in an energy efficient manner.

### Value Creation for the Earth

P15 Environment



#### Reducing Environmental Impact through Air Conditioning

We will further boost the environmental performance of air conditioners with the aim of ensuring that air conditioners do not increase the impact on the environment even as they contribute to people's health and improved productivity.

- Make air conditioners more energy efficient
- Mitigate the global warming impact of air conditioners
- Reduce CO<sub>2</sub> emissions resulting from heating

Note: See page 11, CSR Targets and Achievements, for more on SDGs.



### Value Creation for Cities

P15 Environment



#### Contributing to Solving Energy-related Issues Arising from Urbanization

We are expanding our business focus from just air conditioner lifecycles to encompassing building and city lifecycles, and making buildings and entire cities more energy efficient while also maintaining comfortable working and living environments.

- Contribute to the realization of net zero energy buildings (ZEBs)
- Energy management, demand response
- Energy creation



### Value Creation for Health and Comfort

P17 New Value Creation



#### Protecting People's Health with Air

We are contributing to healthy and comfortable lifestyles by not just improving air quality and removing pollutants from the air but also by expanding the possibilities of air, such as creating room environments that improve people's power of concentration.

- Provide solutions for air and spaces through filter business
- Create value in spaces through health and comfort



### Value through Human Resource Development

P21 Human Resources



- Help people acquire and improve skills
- Create jobs
- Contribute to local economic development
- Create new products and services that improve people's quality of life

### Value through Coexistence with Nature

P23 Community Topics



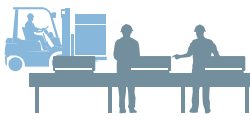







- Control CO<sub>2</sub> emissions
- Maintain biodiversity
- Maintain forests' natural functions
- Create alternate means of livelihood for residents

# Establishing Key CSR Themes towards

The Daikin Group's business activities impact society in various stages of the value chain, and the scope of this impact is expanding with globalization. We therefore identify the importance (materiality) of our actions with consideration of these impacts and incorporate this into our strategic management plan.

## Assessing the Impact of Our Business on Society throughout the Entire Value Chain

Value chain		Business impact, what Daikin to do	Efforts of significant materiality
Procurement		Throughout the globally expanding supply chain, Daikin is expected to respond to various procurement risks involving, for example, quality control, labor practices, and environmental protection.	<ul style="list-style-type: none"> <li>● Supply-chain management</li> <li>● Anti-corruption</li> <li>● Free competition and fair business dealings</li> </ul>
Development, Design		As air conditioner demand grows in emerging markets and other countries, Daikin must develop products that offer comfort and superb environmental performance and meet regional needs.	<ul style="list-style-type: none"> <li>● Response to climate change</li> <li>● Effective use of resources and energy</li> <li>● Management of chemical substances</li> </ul>
Manufacturing		It is crucial that Daikin increase productivity while at the same time improving manufacturing quality and reducing environmental impact at all worldwide production sites.	<ul style="list-style-type: none"> <li>● Waste and water-use reduction</li> <li>● New value creation</li> <li>● Product quality and safety</li> <li>● Customer satisfaction</li> <li>● Information security</li> </ul>
Sales, Transportation, Installation		Faulty air conditioner installation not only causes quality problems but also leads to environmental problems such as refrigerant leakage. It is crucial that Daikin raises the level of installation skills of employees and retailers worldwide.	<ul style="list-style-type: none"> <li>● Response to climate change</li> <li>● Product quality and safety</li> <li>● Customer satisfaction</li> <li>● Anti-corruption</li> <li>● Free competition and fair business dealings</li> <li>● Information security</li> </ul>
Usage		Global warming impact from air conditioner use presents a huge challenge. At the same time, air conditioners provide benefits such as preventing heatstroke and making people more productive.	<ul style="list-style-type: none"> <li>● Response to climate change</li> <li>● Customer satisfaction</li> <li>● Information security</li> </ul>
After-sales Service, Recovery, Recycling		To achieve a recycling-based society, it is crucial that we are thorough in recycling air conditioners and recovering/recycling refrigerants.	<ul style="list-style-type: none"> <li>● Response to climate change</li> <li>● Waste and water-use reduction</li> <li>● Customer satisfaction</li> <li>● Information security</li> </ul>
Business Activity Foundation		In order to continue contributing to society, we must develop the human resources who conduct our business, comply with laws and regulations, and have in place a system of corporate governance.	<ul style="list-style-type: none"> <li>● Human resource development</li> <li>● Workplace diversity</li> <li>● Occupational safety and health</li> <li>● Labor-management relations</li> <li>● Respect for human rights</li> <li>● Corporate governance</li> </ul>
Relationship with Society		In order to spread Daikin technologies and thus contribute to solving society's problems, it is essential that we work closely with numerous partners, including governments, United Nations bodies, international organizations, NGOs, key individuals, and local communities.	<ul style="list-style-type: none"> <li>● Response to climate change</li> <li>● Biodiversity protection</li> <li>● Communities</li> <li>● Stakeholder engagement</li> </ul>

# Sustainable Development

## Revising Materiality in Line with the Fusion 20 Strategic Management Plan

In line with our Fusion 20 strategic management plan, we revised the materiality of our CSR initiatives in fiscal 2015. Evaluation was conducted with consideration in two areas: concerns and impacts of stakeholders (on the right page), which include stakeholder engagement, international guidelines, and criteria of socially responsible investment survey institutes; and importance to Daikin, which includes Our Group Philosophy and medium-term management plans.

### Materiality analysis



## 9 Key CSR Themes Reflected in Fusion 20 Strategic Management Plan

We identified nine materiality issues: four themes of CSR for value provision, which are aimed at achieving sustainable development for Daikin and society; and five themes of fundamental CSR. These are part of the Fusion 20 strategic management plan as key focal points in our management.

### Daikin Group CSR

CSR for Value Provision		Fundamental CSR	
We provide healthy and comfortable air environments for people around the world while at the same time reducing environmental impact.	● Environment	We respond to society's requests through corporate action based on transparency and sincerity.	● Corporate Governance
	● New Value Creation		● Respect for Human Rights
	● Customer Satisfaction		● Supply Chain Management
	● Human Resources		● Stakeholder Engagement
			● Communities

	Key CSR Themes	About the CSR Initiatives	Boundaries (of impact)
CSR for Value Provision	<b>Environment</b> Introduce state-of-the-art technologies to the market in order to address environmental and energy issue	<b>Provide Environmentally Conscious Products and Services Worldwide</b> <ul style="list-style-type: none"> <li>Promote use of energy-efficient air conditioners, including inverter products.</li> <li>Promote use of air conditioners using refrigerants with low global warming potential.</li> <li>Promote use of heat-pump-type heating systems and hot water heaters.</li> <li>Expand our energy-efficient solutions business.</li> </ul> 7 9 11 13 	
		<b>Minimize Environmental Impact in Production Activities</b> <ul style="list-style-type: none"> <li>Reduce greenhouse gases.</li> <li>Make effective use of water and other resources.</li> <li>Reduce chemicals.</li> <li>Promote green procurement.</li> </ul> 12	
		<b>Expand the Green Heart Circle of Love for the Earth</b> <ul style="list-style-type: none"> <li>Encourage employees to take part in environmental activities inside and outside work.</li> <li>Promote environmental and social contribution activities.</li> </ul> 13 15 	
	<b>New Value Creation</b> Share dreams and ambitions inside and outside Daikin to realize a healthy, comfortable lifestyle through air	<b>Create New Value to Meet the Expectations of Customers and Society</b> 3 7 9 11 13	
	<b>Customer Satisfaction</b> Provide peace of mind and reliability through a focus on customer orientation, experience, performance, and advanced technologies	<b>Provide Customers with the Ultimate Satisfaction</b> <ul style="list-style-type: none"> <li>Provide safety and quality.</li> <li>Provide customer satisfaction.</li> </ul> 	
	<b>Human Resources</b> Respect individual personalities and values, and maximize the potential of each employee	<b>Create a Work Environment Where Employees Can Use Their Talents to the Fullest through People-centered Management</b> <ul style="list-style-type: none"> <li>Develop human resources.</li> <li>Promote workplace diversity.</li> <li>Promote occupational safety and health.</li> </ul> 4 5 8 	
Fundamental CSR	<b>Corporate Governance</b>	Accelerate decision-making and operational execution in response to management tasks and the changing management environment, and raise the level of management transparency and soundness to raise corporate value.	
	<b>Respect for Human Rights</b>	Show respect for basic human rights in accordance with all international norms based on the laws and regulations of each country and region.	
	<b>Supply Chain Management</b>	Fulfill corporate social responsibility through environmental impact reduction, quality assurance, and occupational safety and health, not just in the Daikin Group but throughout the entire supply chain.	
	<b>Stakeholder Engagement</b>	Engage in dialogue with all members of society and reflect outside opinions in our business, and continuously examine our actions to ensure that we meet society's demands and expectations.	
	<b>Communities</b>	Respect the culture and history of different countries and regions, and create strong bonds with communities as a good corporate citizen.	



	Medium-term CSR Goals and Plans (by Fiscal 2020)	Fiscal 2016 Achievements
	<ul style="list-style-type: none"> <li>Promote use of environmentally harmonious products worldwide. Through the worldwide adoption of environmentally conscious products, contribute to reducing greenhouse gas emissions by fiscal 2020.</li> </ul> <p><b>60</b> million tons-CO<sub>2</sub></p>	<p><b>Contribution to Emission Reductions</b> <b>45</b> million tons-CO<sub>2</sub></p> <p><b>Environmentally Conscious Products as Percentage of Group Sales</b> (Residential Air Conditioners) <b>74%</b></p>
	<ul style="list-style-type: none"> <li>Reduce group-wide fiscal 2020 greenhouse gas emissions from production by 70% compared to fiscal 2005.</li> </ul>	<p><b>Greenhouse Gas Emissions from Production</b> <b>1.57</b> million tons-CO<sub>2</sub> (By 70% Compared to FY2005)</p>
	<ul style="list-style-type: none"> <li>Carry out and expand joint environmental activities with stakeholders.</li> </ul>	<p><b>Size of Forest Area Protected</b> <b>11</b> million hectares</p> <p><b>Green Heart Factories</b> <b>41</b></p>
	<ul style="list-style-type: none"> <li>Provide value to the Earth.</li> <li>Provide value to cities.</li> <li>Provide value for health and comfort.</li> </ul>	<p><b>R&amp;D Expenditure</b> <b>53.9</b> billion yen (46.1 billion yen in FY2015)</p> <p><b>Number of Patent Applications</b> (FY2015) (Daikin Industries, Ltd. only) <b>1,116</b> (1,292 in FY2014)</p>
	<ul style="list-style-type: none"> <li>Establish a service network covering the globe.</li> <li>Improve the ability to develop products in response to the needs of worldwide customers.</li> <li>Establish a high, optimal standard of quality.</li> </ul>	<p><b>After-sales Service Customer Satisfaction Rate</b> (Daikin Industries, Ltd. only) <b>4.13</b> (Weighted Average of Five-stage Assessment) (4.05 in FY2015)</p> <p><b>Number of Countries Where Daikin Does Business</b> Over <b>150</b></p> <p><b>Production Bases</b> Over <b>90</b></p>
	<ul style="list-style-type: none"> <li>Maintain and expand employment.</li> <li>Build a work environment where many uniquely individual employees can work with enthusiasm, find their work worthwhile, and display their full potential.</li> </ul>	<p><b>Women as Percentage of All Managers</b> (Daikin Industries, Ltd. only) <b>4.4%</b> (3.6% in FY2015)</p> <p><b>Percentage of Overseas Bases Where Local Nationals are President</b> <b>52%</b> (51% in FY2015)</p> <p><b>Number of Installation Engineers Trained</b> (Japan, China, and rest of Asia) <b>16,000</b></p>

## Sustainable Development Goals

(Sustainable Development Goals:SDGs)

In September 2015, the United Nations adopted "Transforming our world: the 2030 Agenda for Sustainable Development" and established the Sustainable Development Goals (SDGs) in an effort to solve worldwide problems related to issues such as poverty and energy. The SDGs comprise 17 goals for solving worldwide problems, with 2030 as the target year for achievement of these goals.



# Environment

## Contributing to the Realization of Net Zero Energy Buildings through Optimally Controlled Air Conditioning Systems



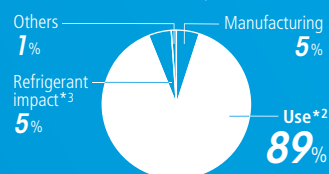
P15

### Why is it important?

#### Sustainable Development for Society Requires Reductions in Energy Consumption

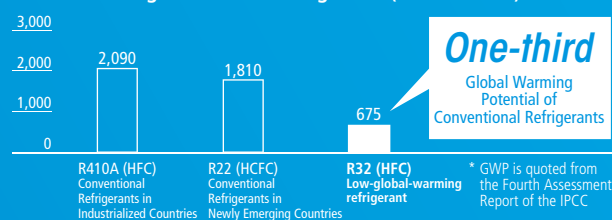
Daikin's main product of air conditioners contribute to economic development and a better quality of life in the world's hot regions. At the same time, they consume large amounts of energy during usage, and their fluorocarbon refrigerants contribute to climate change. To ensure that air conditioners make peoples' lives healthier and more comfortable, Daikin is striving to develop and provide products and services that contribute less to climate change, and it is working with stakeholders to reduce the energy consumption of air conditioning.

#### Breakdown of CO<sub>2</sub> Emissions throughout Lifecycle\*<sup>1</sup> (Residential air conditioners in Japan)



\*<sup>1</sup> Based on Daikin standards for 2.8-kW-class products.  
\*<sup>2</sup> The seasonal power consumption is calculated in accordance with the Japanese Industrial Standards (JIS).  
\*<sup>3</sup> Refrigerant impact is calculated by obtaining the global warming potential per unit of weight while factoring in the average leakage rate during the product use, disposal, and recycling stages.

#### Global Warming Potential of Refrigerants (Fluorocarbon)\*



P17

# New Value Creation

## Creating Spaces That Meet the Needs of Society by Integrating Technologies of Air Conditioning and Filter with Engineering Prowess

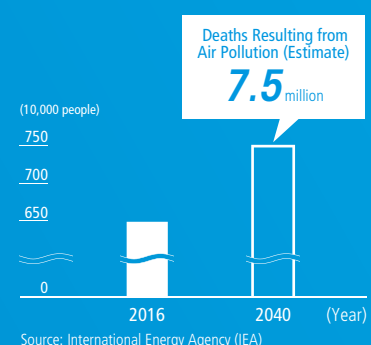
### Why is it important?

#### Harmful Air Pollutants Have Become a Global Problem

According to a 2016 study by the World Health Organization (WHO), 80% of the population in the world's major cities lives in unhealthy air environments. Topping the list are cities in newly emerging countries undergoing unprecedented economic development in which factories, power plants, and cars emit PM2.5 and other air pollutants.

Indoor air environments are also important. After all, this is where people spend more than 90% of their time.

We believe that it will become increasingly important to develop technologies that improve indoor air environments by removing pollutants, preventing their emission, blocking out polluted air.



# Customer Satisfaction

## Solving Problems Faced by Customers in Managing Air Conditioning Equipment



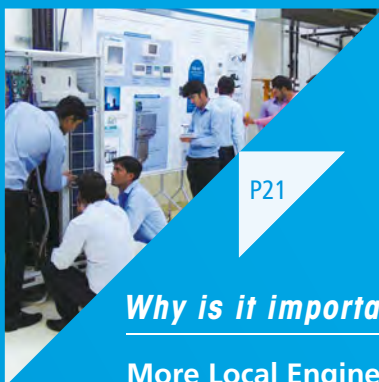
P19

### Why is it important?

#### Solving Customer Problems and Earning Their Trust

Providing customers with better products and services brings them satisfaction. With so many different kinds of products on the market, customers don't make choices based on performance alone. Customers want performance and service that exceeds their expectations. Daikin can use its specialized knowledge and technologies to anticipate and solve customer concerns regarding the use of air conditioners and refrigeration equipment.

Such efforts will strengthen the bonds of trust with customers and lead to the growth of our business and solutions to the issues facing society.



P21

# Human Resources

## Supporting the Training of Engineers in Emerging Countries through Industry-Government-Academia Collaboration

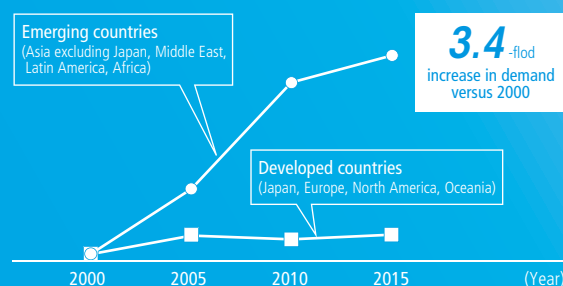
### Why is it important?

#### More Local Engineers Needed to Support Air Conditioner Industry

The widespread use of air conditioners requires more than just their manufacture: you also need people with the specialized skills to install, maintain, and repair them. By globally fostering human resources with these skills, we can contribute to further air conditioner adoption and a better quality of life for people in these worldwide communities.

It is especially important that we waste no time in training human resources in the newly emerging countries where air conditioner use is on the rise, since there is a shortage of engineers in those countries.

Air Conditioner Demand Growth Rate (Since 2000)



Note: Data created based on "World Air Conditioner Demand by Region," published by the Japan Refrigeration and Air Conditioning Industry Association.



**Feature** *Achieving a carbon-free society requires energy-efficient offices and buildings*

# Contributing to the Realization of Net Zero Energy Buildings through Optimally Controlled Air Conditioning Systems

## DAIKIN'S APPROACH

### Net Zero Energy Buildings (ZEBs) Dramatically Reduce Energy Consumption

Efforts are accelerating on a global scale towards the realization of net zero energy buildings (ZEBs), which dramatically reduce energy consumption while maintaining comfort for occupants.

Amidst efforts to reduce carbon emissions under the Paris Agreement, buildings account for approximately one-third of the world's energy consumption, and if no measures are taken, it is estimated that the energy consumed by buildings will approximately double by around 2050. Making buildings ZEBs is an effective and necessary means of reducing energy consumption. The Japanese government has announced a target of having all new public buildings be constructed as ZEBs by 2020.

Air conditioners, which account for more than 40% of building energy consumption, must be more

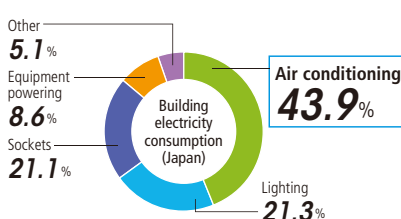
energy efficient to make buildings ZEBs. Daikin is making it a key task to use its proprietary technologies to achieve greater energy efficiency of buildings. In 2015, we began conducting ZEB demonstration testing at our Technology and Innovation Center (TIC), which we opened with the goal of creating new value for society.

## DAIKIN'S PERFORMANCE

### ZEB Demonstration Testing at TIC Achieves 82% Reduction in Energy Consumption

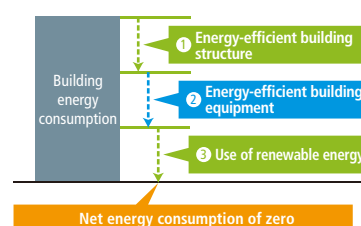
At the TIC, we collaborated with an architectural firm in exhaustive testing aimed at reducing energy consumption. For example, we reduced the amount of air conditioning and artificial lighting needed by using structures that maximize natural light and wind, and we incorporated highly energy-efficient equipment and management systems for operating this equipment.

### Building Electricity Consumption and Net Zero Energy Buildings (ZEBs)



Source: Energy Conservation Center, Japan (ECCJ)

#### ZEB Definition



#### How buildings are being made into ZEBs

Highly efficient insulation, wind and solar power, blocking of solar radiation, natural ventilation, others

More efficient equipment, more efficient systems, energy-efficient operation, others

Solar power, wind power, storage batteries, heat storage tanks, others

Daikin's strength

Energy management

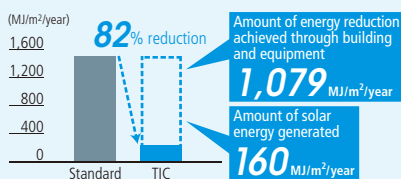


## TIC's ZEB Technologies

With sensors throughout the entire floor and the ability to control all air conditioners, energy consumption can be controlled so that both room comfort and energy efficiency are achieved. In addition, solar power and other renewable energy sources are utilized. Energy-efficiency also goes beyond air conditioning to include equipment such as LED lighting.



TIC's energy consumption



### 1 Energy-efficient building structure

- **Use of natural light and ventilation**
- **Use of thermal energy**  
A system was introduced to effectively use geothermal heat.
- **Improve performance of building's outer layer**  
The easy-to-install ZEFFLE infrared reflective coating was applied to effectively reflect sunlight and keep indoor temperatures down.

### 2 Energy-efficient building equipment

- **Ultra-high-efficiency air conditioning**  
The VRV series of multi-split type air conditioners for commercial buildings adjusts temperature, and the DESICA HOME AIR uses outdoor air to control humidity. These two are combined in a system for separation of latent heat that allows efficient energy usage.

### 3 Use of renewable energy

- **Use of solar power**  
A 300-kW solar power generation system uses tracking solar panels to achieve maximum power generation.

### Energy management

- **Optimal control**  
Optimal air conditioning is achieved by adjusting to outdoor air temperature.
- **On-screen information about energy efficiency**  
Digital signage in the TIC offices shows the amount of electricity currently being consumed.

As a result, in fiscal 2016 we succeeded in reducing overall building energy consumption by 72% compared to standard values. When solar power generation was added to the equation, we achieved an 82% reduction.

In July 2016, the TIC received the highest rank of Platinum Certification in the LEED for New Construction (LEED-NC). LEED is the world's most widely adopted system for the evaluation of environmentally responsible buildings.



## Energy Management Balancing Comfort and Energy Efficiency

Building energy management systems (BEMSs) ensure optimal operation of air conditioning according to the specific usage conditions of each building and thus hold the key to achieving air conditioning that offers both energy efficiency and comfort. Daikin is already putting to practical use the technologies it has acquired through demonstration testing. For example, we have conducted real-time analysis at the TIC to test whether energy management systems are continuously maintaining comfortable room environments, and systems adopting the fruits of this testing have been incorporated in new buildings aiming to achieve net zero energy usage.

One such building in Tokyo uses the system to achieve the most energy efficient means of air conditioning according to continuously changing conditions. For example, the system employs a vast array of sensors for real-time measurement of factors necessary to maintaining a comfortable room environment, such as temperature, humidity, illumination, CO<sub>2</sub> concentration, outdoor wind speed, and precipitation. When room comfort can be achieved with only the cold air from outside, the system automatically switches to outdoor air cooling mode. An evaluation of the building shows that it is now twice as efficient as standard buildings.

## Stakeholder's Comment

### I'm Counting On Daikin Innovations to Help Realize a Zero-carbon Society

With the Paris Agreement going into effect and debate on long-term targets for the reduction of greenhouse gases, the prevailing opinion is that the private sector must for the most part achieve zero carbon emissions by the latter half of this century. Daikin's challenge to make the TIC a ZEB is a successful case study of an energy system that achieves good overall balance throughout an entire building. It would be great to see this experience give rise to more such successes in the future.



**Dr. Yoshiyuki Shimoda**  
Professor  
Graduate School,  
Osaka University

## NEXT CHALLENGE

### Build Up Scientific Proof of Energy Efficiency and Help Spread the Construction of ZEBs

Daikin holds regular discussions with groups around the world that are promoting the move to ZEB and other green buildings. To achieve optimal control of air conditioning, it is crucial to take into consideration the climate, types of buildings, and air conditioner usage conditions that are peculiar to each country and region. In Japan and other industrialized Western countries, as well as in newly emerging countries that hope to achieve both economic growth and environmental protection, we are using our energy-efficient air conditioners and energy management know-how to hasten the move to ZEB and to contribute to energy efficiency that spans towns, cities, and entire regions.



**Feature** Amidst expansion of fields contributing to air quality control

## Creating Spaces That Meet the Needs of Society by Integrating Technologies of Air Conditioning and Filter with Engineering Prowess

### DAIKIN'S APPROACH

#### In Pursuit of Better Air through Technologies of Air Conditioning and Filter

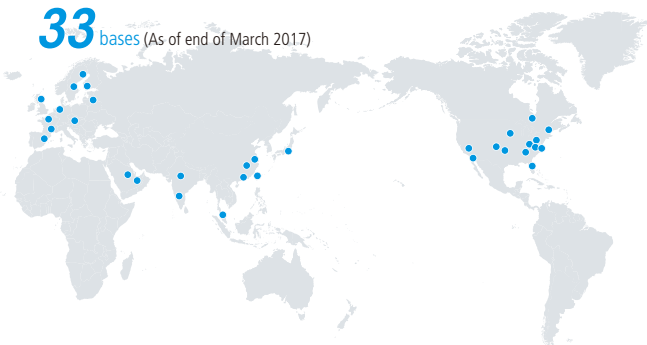
Recent years have seen growing demand for better air environments as emerging countries experience air pollution due to economic development, and industries like pharmaceuticals and food processing become subject to increasingly stricter sanitary regulations. Against this background, Daikin has been boosting its filter business that remove pollutants in the air, including dust, such as PM2.5, various bacteria, and viruses.

Using the filter and air conditioning technologies it has gained for controlling factors such as temperature and humidity, Daikin globally pursues air environments that ensure safety, health, and comfort from the standpoint of cleanliness, airflow, and odor.

#### Daikin Group's Filter Business Production Bases

**33**

bases (As of end of March 2017)



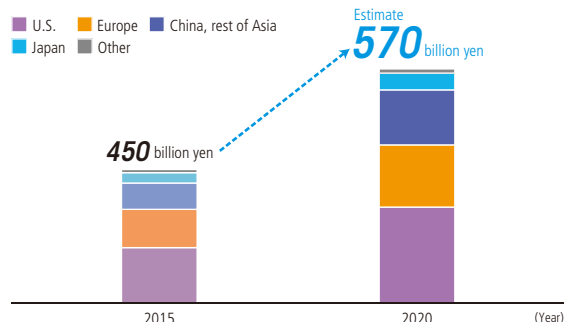
### DAIKIN'S PERFORMANCE

#### Boost Filter Business to Develop Diverse Range of Products Worldwide

Daikin has been expanding its existing filter business and adding more and better products through acquisitions over the years. In 2006, we acquired AAF International, in 2009 Nippon Muki Co., Ltd., and in 2016 Flanders Holdings LLC and Dinair AB.

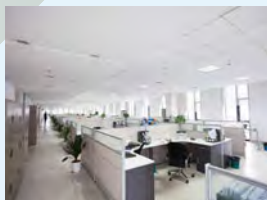
Today, we boast an extensive lineup: filters for office and residential air conditioners, ultra-high-performance filters for clean rooms that trap 99.9% of particles 0.1µm in size, and massive 100-m2 filters used for gas turbines at power plants. These are just some of the ways we contribute to improving air environments in a wide range of settings around the world.

#### Air Filter Market Size by Region



Note: Compiled by Daikin based on data from "Global Air Market 2014-2018," published by TechNavio

## Filters are Ubiquitous



### Offices, Homes

Combining a filter with an air conditioner makes it possible to clear the room air of matter such as PM2.5, pollen, and disease-causing bacteria and viruses.



### Hospitals, Pharmaceutical Plants

A high level of hygiene management can be achieved by combining ultra-high-performance filters and filters for preventing the breeding of bacteria.



### Metal Processing Plants, Cement Plants

Grit, dust, and other harmful substances generated in plants can be removed from the air by dust-collecting systems. This helps to prevent air pollution both inside and in the vicinity of the plant.



### Power Stations

By removing dust from the air, filters prevent pressure loss in turbines. This helps maintain power generating efficiency and saves energy.

## Bringing Customers Optimal Air by Utilizing Daikin Equipment and Engineering Prowess

We do more than just sell air conditioners, filters, and other equipment. We hold comprehensive discussions with customers, and we leverage our engineering prowess to combine technologies and product systems so that we can provide the air environment that meets their exact needs.

For example, at the Gijón steel plant of ArcelorMittal S.A. in Spain, we are engaged from designing the air conditioning system to constructing the dust collection system utilizing filters. Once the system was installed, the plant was able to prevent the dispersion of dust from the steel-making process, thus preventing air pollution in the area surrounding the plant and providing a healthy and comfortable working environment for employees.

Takara Bio Inc. of Shiga, Japan, won a 2016 Facility of the Year Award (FOYA)\* in the facility integration category for its Center for Gene and Cell Processing Construction Project. The center required a highly advanced closed antibacterial area for stem cell production. Daikin proposed an overall building layout that matched the production process, as well as air conditioning technology to control the cleanliness, temperature, humidity, and pressure in the room. By designing facilities free of bacterial and viral crossover and having no contact between differing products, workers, and air environments, we are contributing to higher quality pharmaceuticals and safe environments.



\* Sponsored by the International Society for Pharmaceutical Engineering (ISPE), the Facility of the Year Awards are an annual program that recognizes state-of-the-art projects utilizing new, innovative technologies to improve the quality of products, to reduce the cost of producing high-quality medicines, and demonstrate advances in project delivery.

## Stakeholder's Comment

### Hopes That Daikin Will Contribute to Energy Efficiency and Better Indoor Environments

An important part of achieving a sustainable society is maintaining a healthy and comfortable indoor environment that contributes to productivity. People generally spend more than 90% of their time indoors and breathe 15 kg of air each day. I hope that Daikin, as an air conditioning manufacturer, will make further advances in air purification technology and contribute to improved indoor environments.



**Dr. Bjarne W. Olesen**  
Professor,  
Technical University  
of Denmark

## NEXT CHALLENGE

### Offering Total Support for Creation of New Value in Air and Our Surroundings

Daikin continuously strengthens its capabilities in the development, engineering, and maintenance of equipment so that it can offer customers air environments that meet their complete range of needs.

Our next step is to continue creating new value. Besides working to meet conventional needs such as preventing air pollutants and meeting the hygiene management needs for pharmaceutical, healthcare, and food processing industries, we will exceed existing market needs to further raise air quality in offices and homes so that people can enjoy a higher level of health and comfort that enables greater concentration and relaxation.





**Feature** Amidst legal revisions to limit emissions of fluorocarbons, which are greenhouse gases

## Solving Problems Faced by Customers in Managing Air Conditioning Equipment

### DAIKIN'S APPROACH

#### Helping Customers Deal with Legal Revisions Related to the Crucial Issue of Fluorocarbon Emission Reductions

In Japan the Act on Rational Use and Proper Management of Fluorocarbons went into effect in April 2015. With the goal of prevent leakage of fluorocarbons, a cause of global warming, the law contributes to the worldwide fight to limit greenhouse gas emissions by obligating commercial air conditioner users and inspectors to take numerous control measures.

Customers subject to the new obligations had expressed numerous concerns prior to the new law, such as difficulty in understanding the legal details and how to comply with them. We therefore took measures to alleviate these customers concerns.

### DAIKIN'S PERFORMANCE

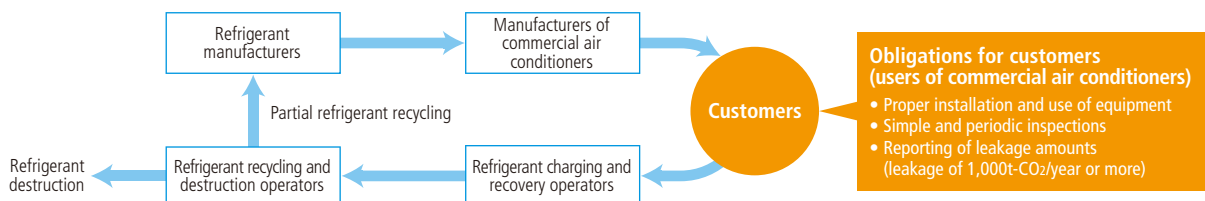
#### Ensuring Customers and Inspectors Understand and Comply with the New Law

Daikin began by conducting on-site surveys in order to determine what must be done by the customers (who use the air conditioning equipment) and the company inspecting the equipment.

Based on the survey results, Daikin compiled its own manual. It contains everything from a list of all equipment covered by the law to actual inspection procedures. As of the end of March 2017, we had distributed 110,000 copies of this manual to customers and 60,000 copies to inspection companies. In addition, we also held approximately 500 seminars all over Japan with over 15,000 people attending. Daikin led the industry by being the first company to promote understanding of the new law prior to its enactment.

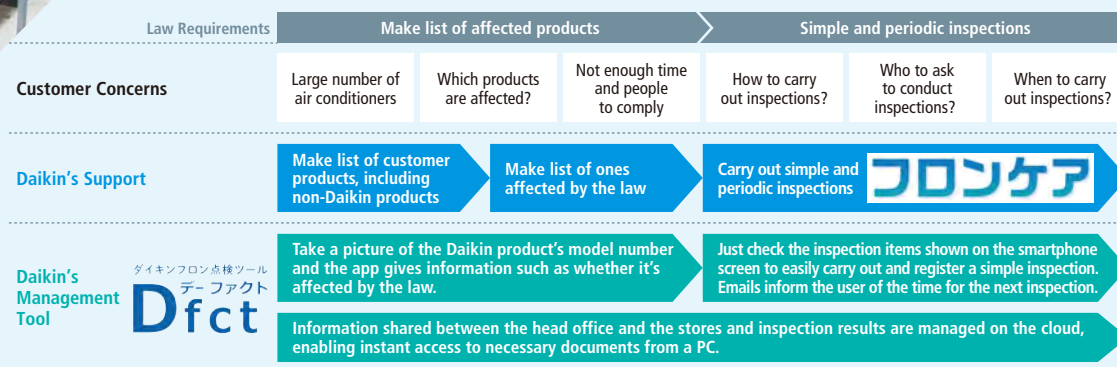
#### Overview of the Act on Rational Use and Proper Management of Fluorocarbons in Japan (Enacted in April 2015)

In addition to existing measures during air conditioner manufacture and disposal, the new law obligates users to take measures during product use to limit fluorocarbon emissions.





## Daikin's Support for Customers



## Support for Customers Includes List of Relevant Products, Inspections, and Smartphone Application

The Act on Rational Use and Proper Management of Fluorocarbons obligates commercial air conditioner users to carry out periodic inspection, repair, and maintenance. We have many customers who use a large number of air conditioners, and it would have taken them great time and effort merely to understand which equipment was covered by the revised law. Daikin therefore began offering support to customers using Daikin and other companies' products. We found subcontractors to carry out simple and periodic inspections for the relevant products, and we helped make lists of all products to enable customers to see which were affected by the revised law. In June 2016 we began offering Fluorocarbon Care, the industry's first periodic inspection system. Under this system, we will carry out repairs related to fluorocarbon leakage, including for non-Daikin products, during a three-year warranty period for the periodic inspections designated by law that Daikin carries out for its customers. As of March 2017, we had carried out fluorocarbon inspections on 66,000 products covered by the revised law.

We also have support tools that the customers themselves can use to ensure they comply with the revised law. In October 2015, we began offering a free fluorocarbon inspection application for use in smartphones. By just taking a picture of the air conditioner with the smartphone, the application determines whether it is covered by the law and gives other information such as the periodic inspection schedule and items for simple inspections. Customers have praised this application and about 58,000 have downloaded and registered it.

## Stakeholder's Comment

### We Can Depend on Daikin to Handle All Our Air Conditioners, Even Non-Daikin Products

There are over 700 air conditioners of various manufacturers on our university campus. We were at a loss as to how to figure out which ones would be affected by the new law. But Daikin came to the rescue by making a database of all the air conditioners and taking care of the inspection and maintenance of the relevant products. Next, we hope to use the information from the inspections in planning CO<sub>2</sub> emission reductions and in making proposals for upgrading equipment.



**Mr. Fukutaro Matsuma**  
Fukui University

## NEXT CHALLENGE

### Continue Providing Services That Solve Customers' Problems

Daikin's support in helping customers respond to the Act on Rational Use and Proper Management of Fluorocarbons is just one example of how we use our specialized knowledge to devise solutions. But we alleviate customer concerns in other ways as well. For example, for customers who want to save energy but lack the manpower to constantly watch over every air conditioner, we offer an energy management service for remote monitoring of air conditioners.

Such customer concerns are closely related to social issues like environmental protection. We will continue to handle these concerns using our specialized knowledge and technological prowess to strengthen the relationship of trust with customers and work with customers to solve social issues.



**Feature** Amidst a growing market in emerging countries and a shortage of engineers in the manufacturing and service fields

## Supporting the Training of Engineers in Emerging Countries through Industry-Government-Academia Collaboration

### DAIKIN'S APPROACH

#### Contributing to Expansion of India's Air Conditioning Market with Engineers Training

Among emerging countries, India has shown particularly rapid growth. With economic expansion the country's air conditioner market grows a 1.2-times in the past five years. Fiscal 2016 sales of Daikin Airconditioning India Pvt. Ltd. (Daikin India) were up 20% over the previous year. The market is expected to continue growing. However, air conditioners operate under extreme conditions because infrastructure, such as transportation, is still developing; power outages and voltage fluctuations appear frequently; and heat exchangers get clogged with dust.

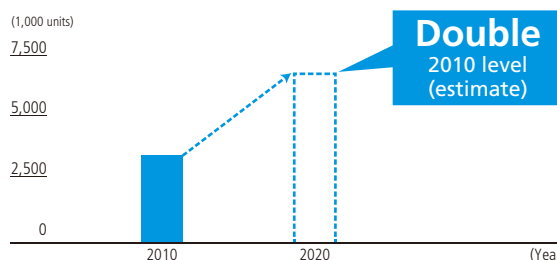
Against this background, it is essential that we make air conditioners capable of withstanding such extreme conditions and train technicians to carry out installation, maintenance, and repair. By contributing to solving problems in India such as the shortage and lack of skill of technicians, we can help raise overall skill levels in the country. Ultimately, we believe that such contributions will lead to sustainable growth for Daikin.

### DAIKIN'S PERFORMANCE

#### Training Service Engineers of All Companies' Products

Since 2000, Daikin India has not only been conducting technical training for its own service engineers but has also been training service engineers of dealers and service outlets that handle other companies' products also. This training is run by a dedicated team that teaches necessities such as air conditioner basics and techniques related to periodic inspections and breakdown diagnosis at the company's training center in the factory. In fiscal 2016, the training hosted a cumulative total of more than 20,000 mandays. Daikin India has expanded the number of training centers in India to five to allow service engineers in regions around the country to be easy to join the training. In fiscal 2016, approximately 1,200 participated.

#### Estimated Air Conditioner Demand in India



Source: "World Air Conditioner Demand by Region," published by the Japan Refrigeration and Air Conditioning Industries Association

## Human Resource Training Programs of Daikin India

	Technical training/ Training for trainers	Technical training for service engineers	Air conditioning technology workshops	Air conditioning technology workshops at JIM
Participants	Employees of Daikin India		Technical fields students	Youngsters hoping to become engineers
		Dealers, and Service outlets		
Role of Daikin India	Guidance on manufacturing technologies, theoretical explanations	Guidance on techniques for air conditioner installation, maintenance, etc.	Guidance for workshop instructors, and free-of-charge provision of the air conditioners needed for teaching	Guidance on air conditioner basics and techniques
Sponsor	Daikin India	Daikin India	Daikin India, 8 local vocational training schools	Daikin India, Japanese and Indian governments

## Industry-Government-Academia Collaboration supports to Train Young Technical Engineers and Helps Raise Technical Skills Nationwide

Daikin India is expanding its human resource training to include not just current technicians but also those who will contribute to technological advancement in the future.

In August 2016, the company began air conditioning technology workshops for university students in collaboration with vocational training schools. Students learn the knowledge and practice the skills needed to become a service engineer. The company dispatches employees to guide the workshop instructors, and it provides the air conditioners needed for teaching purposes free-of-charge. The collaboration currently encompasses eight vocational training schools, and in the past half year more than 250 students have taken part.

Since November 2016, Daikin has been taking part in the Manufacturing Skill Transfer Promotion Program, a joint initiative of Japan's Ministry of Economy, Trade and Industry (METI), the Ministry of Skill Development and Entrepreneurship (MSDE) of India, and Japanese private companies. The program aims to train 30,000 engineers over the next 10 years. In August 2017, Daikin India launched the Japan-India Institute for Manufacturing (JIM) to train engineers for the field of air conditioner manufacturing. The school will accept students whose financial situation makes it difficult for them to go to university, and they will learn not only practical skills but also the spirit and culture of Japan manufacturing, including improvement activities and the 5S method.



An air conditioning technology workshop at a vocational training school

### Stakeholder's Comment

#### High Hopes for Improved Student Skills through Practical Training with Daikin

What's special about this course is that it brings the students close to Daikin's industry-leading technologies and provides them with training that allows them to acquire the skills and knowledge they need for working. We know the course is effective because of the praise our graduates have received from the front lines. I hope that in the future the course will incorporate even more advanced training.



**Dr. Vikram Singh**  
Professor  
YMCA University of  
Science and  
Technology, Faridabad

## NEXT CHALLENGE

### Growing Worldwide with Communities through Human Resource Training

As you can have seen above, we are conducting technical training in India's manufacturing and service fields in order to foster the personnel who will be the core of the country's air conditioning industry. In other countries as well, we will strive to train human resources in Daikin and in other companies so that local industry can advance and prosper.

By continuing to foster human resources inside and outside our company worldwide, contributing to growing engineers and local development, Daikin can achieve sustainable growth.



# “Forests for the Air” Project

Approximately 10% of the world’s greenhouse gas emissions are a result of forest destruction. In addition to conducting its business, Daikin contributes to the reduction of greenhouse gas emissions by carrying out forest protection.

## Project Contributes to Society through Forest Protection

Regions around the world are seeing their forests disappear mainly due to people clear land for agriculture and conduct logging to make firewood or charcoal. Behind these actions lies the problem of poverty.

In response, Daikin is supporting local residents through global partnerships in seven regions around the world.

The goal for the project’s 10-year period is to conserve forests covering some 11 million hectares and in the process contribute to reducing 7 million tons CO<sub>2</sub> emissions.

## Sustainable Development Goals

In September 2015, the United Nations adopted “Transforming our world: the 2030 Agenda for Sustainable Development” and established the Sustainable Development Goals (SDGs) in an effort to solve worldwide problems related to issues such as poverty and energy. The SDGs comprise 17 goals for solving worldwide problems, with 2030 as the target year for achievement of these goals.



© ICMBio / Sueli Pontes



### Amapá Biodiversity Corridor

The project focuses on training villagers to effectively use forest resources so that they can continue utilizing the blessings of nature while also enjoying economic development.



© Conservation International/photograph by Borwen Sayon



### East Nimba Nature Reserve

The project’s aim is to promote coexistence with wildlife and provide education on sanitary methods, while at the same time eliminating actions such as poaching and shifting cultivation.







## China

### Mountains of Southwest China

Local farmers are working to prevent overgrazing by livestock and shift away from the use of chemical fertilizers. The project also uses scientific data to aid in improving agriculture and planting fruit trees.

1 2 4 6 9 12 13 15 17



© Conservation International / photo by Biad Yang



## Japan

### Shiretoko, Hokkaido

Daikin employees are involved in ongoing volunteer activities in the Shiretoko Peninsula with the aim of protecting ecosystems and educating the public.

So far, about 150 Daikin employees have gone to Shiretoko to take part in activities to rejuvenate forests.

12 13 14 15 17



© Conservation International / Photo by Lykhim Ouk



## Cambodia

### Central Cardamom Protected Forest

To give locals a source of income through utilization of the region's beautiful environment, the project makes eco-tourism plans and trains villagers to run and manage eco-tourism businesses.

1 4 6 8 9 13 15 17



© AERF India/photo by Jayant Sarneck



## India

### North Western Ghats

Villagers are provided with efficiently burning cooking stoves, which means they don't have to cut down as many trees for fuel wood. And less smoke from these stoves reduces adverse effects on health.

1 9 12 13 15 17



## Indonesia

### Java Island

The project provides homes in the region with running water from the plentiful forest and electricity generated by hydroelectricity. With their lives now more convenient and sanitary, villagers have come to better understand the value of the forest and they now earnestly take part in ongoing tree-planting and forest protection activities.

1 2 4 6 7 9 12 13 15 17



© Conservation International / Photo by Anton Ario

## Environment

### Environmental Action Plan 2020

Action targets		Fiscal 2020 target values	Fiscal 2016 target values		Fiscal 2016 results	Self-assessment
1 Provide Environmentally Conscious Products and Services Worldwide						
Contribute to reducing greenhouse gas emissions by spreading the use of following products ●Energy-efficient air conditioners and services including inverter products ●Air conditioners using refrigerants with low global warming potential ●Heat-pump-type heating systems and hot water heaters ●Energy-efficient solutions business		Contribution to Greenhouse Gas Emission Reductions* <sup>1</sup> 60-million tons-CO <sub>2</sub>	Contribution to Emission Reductions 39 million tons-CO <sub>2</sub>		Contribution to Emission Reductions 45 million tons-CO <sub>2</sub>	★★★
		Increase in Ratio of Environmentally Conscious Products* <sup>2</sup>			Sales of Environmentally Conscious Products as Percentage of Residential Air Conditioners 74%	★★★
2 Minimize Environmental Impact in Production Activities						
Greenhouse Gas	Emission Reductions	70% reduction over fiscal 2005 (reduction to 1.58 million tons-CO <sub>2</sub> )	67% reduction		70% reduction (reduction to 1.57 million tons-CO <sub>2</sub> )	★★★
	Reduction of Energy-Induced CO <sub>2</sub> Emissions	Unit reduction in energy-induced CO <sub>2</sub> emissions of 5% against Standard value* <sup>3</sup>	Japan	1% reduction	3% reduction	★★★
Emissions		Unit Reduction in Emissions of 5% against Standard value* <sup>3</sup>	Overseas	1% reduction	8% reduction	★★★
			Japan	1% reduction	4% reduction	★★★
			Overseas	1% reduction	6% reduction	★★★
			Japan	1% reduction	6% reduction	★★★
Water		Unit Reduction in Water Intake of 5% against Standard value* <sup>3</sup>	Overseas	1% reduction	3% reduction	★★★
			Japan	1% reduction	9% reduction	★★★
Chemicals		Unit Reduction in Chemical Emissions of 5% against Standard value* <sup>3</sup>	Overseas	1% reduction	1% increase	★
			Japan	1% reduction	1% increase	★
Green procurement		Increase in Green Procurement Rate			74%	★★★
3 Expand the Green Heart Circle of Love for the Earth						
Carry out and expand environmental activities in collaboration with stakeholders	Encourage employees to take part in environmental activities inside and outside work	Make all production bases Green Heart Factories* <sup>4</sup>			41 bases certified (8 in Japan, 33 overseas)	★★★
	Promote environmental and social contribution activities	Carry out forest protection activities with NGOs Educate the younger generation about the environment			Protect 11 million hectares of forest Provide free learning materials to 2,000 students	★★★

\*<sup>1</sup> Difference between emissions from all Daikin environmentally conscious products sold and emissions from non-inverter products, air conditioners using conventional refrigerants, and gas-combustion space heaters and hot water heaters.

\*<sup>2</sup> Products that satisfy either or both of the following conditions: consume at least 30% less electricity than conventional products, or use refrigerants with at least two-thirds less global warming potential than conventional refrigerants.

\*<sup>3</sup> Average for fiscal 2013-2015.

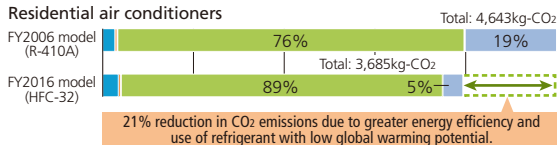
\*<sup>4</sup> A Daikin standard for assessing and certifying how well each production base is doing in achieving environmental criteria related to energy efficiency, waste reduction, and biodiversity protection.

Self-assessment: Shows level of achievement of targets in three designations: ★★★★★: Succeeded   ★★★★★: Will soon succeed   ★★: Doing all we can

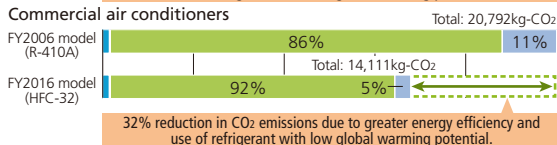
### Comparison of CO<sub>2</sub> Emissions over Product Lifecycle\*<sup>1</sup>

■ Materials/parts manufacturing ■ Product assembling process ■ Logistics ■ Use\*<sup>2</sup>  
 ■ Disposal/recycling process ■ Refrigerant impact\*<sup>3</sup> (during use + during disposal and recycling)

#### Residential air conditioners



#### Commercial air conditioners

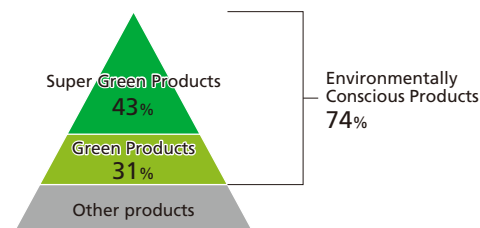


\*<sup>1</sup> Based on Daikin standards for 2.8-kW class residential air conditioners and 14-kW class commercial air conditioners.

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

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

### Environmentally Conscious Products\* as Percentage of Net Sales (residential air conditioners)



\*Environmentally Conscious products: Name for Super Green Products and Green Products. Products that satisfy all of the conditions below are Super Green Products. Products that satisfy at least one of the conditions are Green Products.

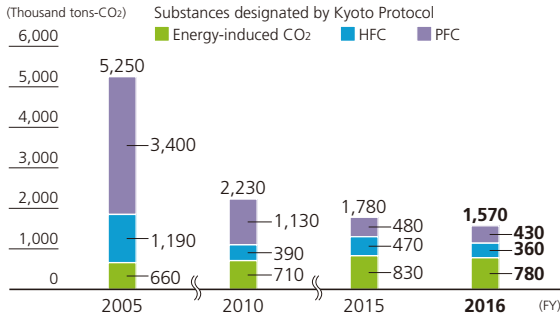
● Consume at least 30% less electricity than conventional products  
 Example: Air conditioners equipped with inverters

● Use refrigerants with at least two-thirds less global warming potential than conventional refrigerants  
 Example: Air conditioners using HFC-32, a refrigerant with lower global warming potential

Companies covered by data: (D) Daikin Industries, Ltd. (JG) Including Group in Japan (OG) Overseas Group companies only (OJG) Including Group companies in Japan and overseas

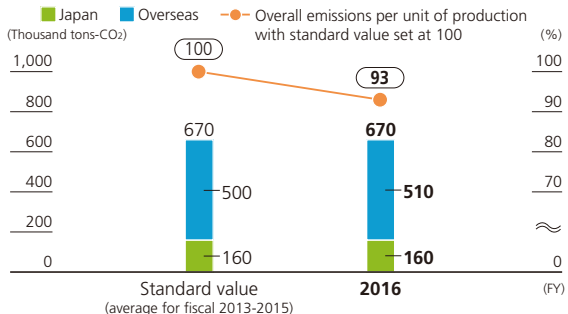
## Greenhouse Gas Emissions (Production)

★ Verified (OJG)



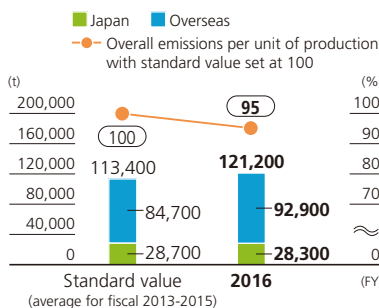
## Total Energy-Induced CO<sub>2</sub> Emissions, CO<sub>2</sub> Emissions per Unit of Production

★ (OJG)



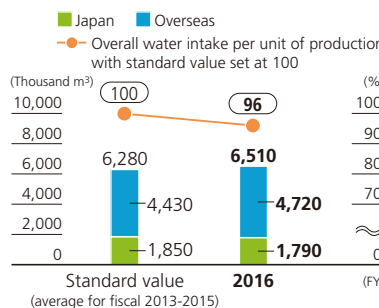
## Emissions/ per Unit of Production

★ (OJG)



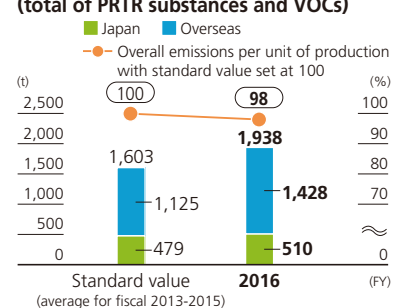
## Water Intake/ per Unit of Production

★ (OJG)



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

★ (OJG)

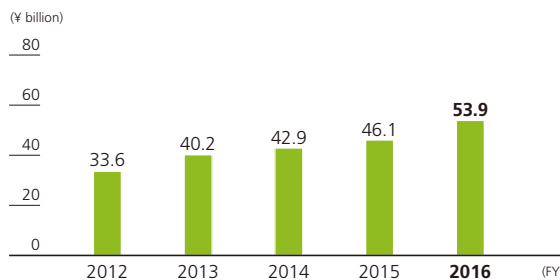


★ Because the scope of calculations and the calculation method were revised in formulating the 2020 Environmental Action Plan, the past fiscal year values were retroactively corrected. For details, please visit our sustainability website.

## New Value Creation

### Research and Development Expenses

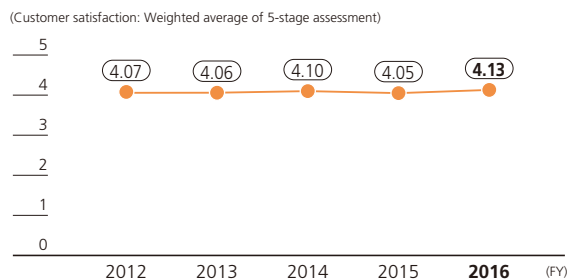
(OJG)



## Customer Satisfaction

### Customer Satisfaction with After-Sales Service\*

(D)

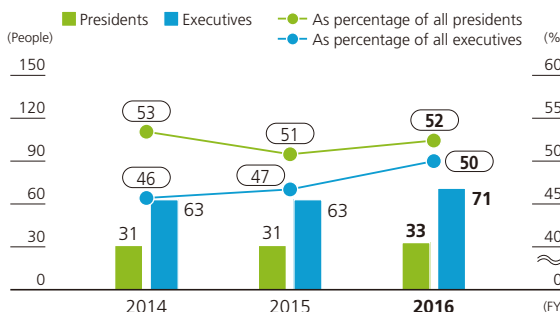


\*Results from surveys sent to a random sampling of customers within two weeks after a Daikin product is fixed. A weighted average of a five-stage assessment.

## Human Resources

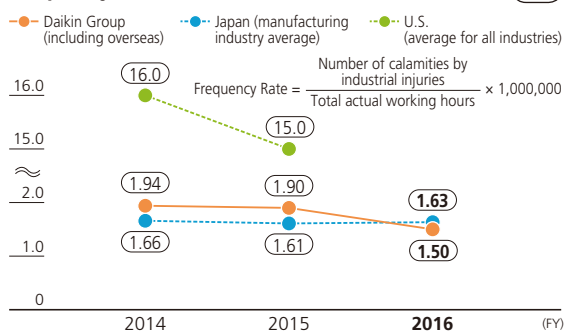
### Percentage of Bases Where Local Nationals are Presidents or Executives

(OG)



### Frequency Rate\*1

(OJG)



\*1 This shows the frequency of work-related calamities, expressed in number of calamities for every 1,000,000 working hours.

\*2 No data was released for the U.S. in fiscal 2016. (As of end of June 2016) Calculated based on information from U.S. Bureau of Labor Statistics (October 2016).

## Third-Party Verification Statement

To ensure reliability of the content of this report, the Daikin Group had a third-party verification conducted for data on greenhouse gas emissions, water use, and wastewater.

### Data Covered by Verification

#### Environmental Impact Data on Business Operations in FY2016

- ▶ Scope 1 and Scope 2 greenhouse gas (GHG) emissions from business operations of four production bases in Japan of Daikin Industries, Ltd., eight production subsidiaries in Japan, and 47 production subsidiaries overseas.
- ▶ Category 1 (purchased goods and services), 4 (upstream transportation and distribution), 6 (business travel), and 11 (use of sold products) emissions of Scope 3 GHG emissions calculated in line with the GHG Protocol's 'Corporate Value Chain (Scope3) Accounting and Reporting Standard.'

### Scope of Review

#### Contribution to CO<sub>2</sub> Emission Reduction through the Use of Products

- ▶ Contribution to CO<sub>2</sub> emission reduction through the use of inverter air conditioners sold in emerging countries in fiscal 2016.
- ▶ Contribution to CO<sub>2</sub> emission reductions through the use of air conditioners sold in industrialized countries in fiscal 2016.
- ▶ Contribution to greenhouse gas emission reductions through fiscal 2016 worldwide sales of air conditioners that use HFC-32 low-global-warming potential refrigerant.

**Daikin Group Sustainability Report 2017**  
**Independent Verification Report**

To: Daikin Industries, Ltd.

Bureau Veritas Japan Co., Ltd. (Bureau Veritas) has been engaged by Daikin Industries, Ltd. (Daikin) to conduct an independent verification and review of its environmental data selected by Daikin for inclusion in the Daikin Group Sustainability Report 2017 (the Report), issued under the responsibility of Daikin. The aim of the verification is to consider the reliability and accuracy of environmental data within the Report and to provide a verification opinion based on objective evidence. The aim of the review is to make an independent statement concerning the reliability and accuracy of the environmental data.

**1. Verification and Review Outline**

1) Environmental impact data generated through business operations in FY2016

Bureau Veritas conducted a verification of the following data:

Data Verified	Sites Visited	Verification or Review Methodology
Scope 1 and Scope 2 GHG emissions through business operations of four production bases in Japan, eight production subsidiaries within Japan and 47 production subsidiaries overseas	- Daikin Head Office - Daikin Refrigeration Co. Ltd. - JFAN DAIKIN QINGYAN COMPRESSOR CO., LTD. - Daikin, Genshou (Suzhou) Co., Ltd. - DAIKIN AIR-CONDITIONING (SUZHOU) CO., LTD. - Daikin Malaysia Sdn. Bhd. - Daikin Refrigeration Malaysia Sdn. Bhd. - Daikin Airconditioning India Pvt. Ltd. - Rotex Heating Systems GmbH - Daikin Head Office - Daikin Stage Plant - JFAN DAIKIN QINGYAN COMPRESSOR CO., LTD. - Daikin Malaysia Sdn. Bhd. - Daikin Airconditioning India Pvt. Ltd. - Rotex Heating Systems GmbH - Daikin Head Office	- Review of documentary evidence produced by Daikin Head Office and the sites visited - Interviews with relevant personnel of Daikin Head Office and the sites visited - Site inspection assessing data monitoring procedure - Comparison between site reported data and the supporting documentary evidence
Water used and Wastewater through business operations of four production bases in Japan, eight production subsidiaries within Japan and 47 production subsidiaries overseas	- Daikin Head Office - Daikin Stage Plant - JFAN DAIKIN QINGYAN COMPRESSOR CO., LTD. - Daikin Malaysia Sdn. Bhd. - Daikin Airconditioning India Pvt. Ltd. - Rotex Heating Systems GmbH - Daikin Head Office	- Review of documentary evidence produced by Daikin Head Office and the departments of the relevant products and services - Interviews with relevant personnel of Daikin Head Office and the subsidiaries of the relevant products and services - Comparison between the data used in the calculation of emissions reductions and the supporting documentary evidence

The verification was conducted using Bureau Veritas' standard procedures and guidelines for external verification of non-financial reporting, based on current best practice. Bureau Veritas refers to the International Standard on Assurance Engagements (ISAE) 3000 in providing a limited assurance for the scope of work stated herein.

2) Amount of contribution to GHG emission reduction by sold products

Bureau Veritas conducted a review of the following data:

Data Reviewed	Sites Visited	Review Methodology
The amount of contribution to CO <sub>2</sub> emissions reduction through the use of inverter air conditioners sold for emerging countries in FY2016	- Daikin Head Office	- Review of documentary evidence produced by Daikin Head Office and the departments of the relevant products and services - Interviews with relevant personnel of Daikin Head Office and the subsidiaries of the relevant products and services - Comparison between the data used in the calculation of emissions reductions and the supporting documentary evidence
The amount of contribution to CO <sub>2</sub> emissions reduction through the use of air conditioners sold for advanced countries in FY2016 (based on FY2015)	- Daikin Head Office	- Review of documentary evidence produced by Daikin Head Office and the departments of the relevant products and services - Interviews with relevant personnel of Daikin Head Office and the subsidiaries of the relevant products and services - Comparison between the data used in the calculation of emissions reductions and the supporting documentary evidence
The amount of contribution to GHG emissions reduction through the change to low global warming potential refrigerant (R32) charged in air conditioners sold in FY2016	- Daikin Head Office	- Review of documentary evidence produced by Daikin Head Office and the departments of the relevant products and services - Interviews with relevant personnel of Daikin Head Office and the subsidiaries of the relevant products and services - Comparison between the data used in the calculation of emissions reductions and the supporting documentary evidence

**2. Findings**

On the basis of our methodology and the activities described above:

- Nothing has come to our attention to indicate that the reviewed information within the scope of our verification and review is inaccurate and does not provide a fair representation of the performance for the defined period.
- It is our opinion that Daikin has established appropriate systems for the collection, aggregation and analysis of quantitative data within the scope of our verification and review.

Bureau Veritas has implemented a code of ethics across its business which is intended to ensure that all our staff maintain high standards in line with day-to-day business activities. We are particularly vigilant in the prevention of conflicts of interest. Bureau Veritas activities for Daikin are for sustainability reporting verification only and we believe our verification assignment did not cause any conflicts of interest.

**GREENHOUSE GAS EMISSIONS VERIFICATION STATEMENT**

To: Daikin Industries, Ltd.

Bureau Veritas Japan Co., Ltd. (Bureau Veritas) was engaged by Daikin Industries, Ltd. (Daikin) to conduct verification of the greenhouse gas (GHG) emissions reported in the Daikin Group CSR Report 2017 for the period of April 1, 2016 through March 31, 2017.

**1. Scope of Verification**

Daikin requested Bureau Veritas to verify, to a limited level of assurance, the accuracy of the following GHG information:

1) Scope 1 and Scope 2 GHG emissions:

- CO<sub>2</sub> from energy use, HFCs, PFCs: GHG emissions through business operations of four production bases of Daikin, eight production subsidiaries within Japan and 47 overseas production subsidiaries
- CO<sub>2</sub> from non-energy use, CH<sub>4</sub>, N<sub>2</sub>O, SF<sub>6</sub>: GHG emissions through business operations of four production bases of Daikin

2) Categories 1, 4, 6 and 11 of Scope 3 GHG emissions accounted and reported in line with the GHG Protocol's 'Corporate Value Chain (Scope 3) Accounting and Reporting Standard' within the boundaries defined by Daikin for each category.

**2. Methodology**

Bureau Veritas conducted the verification in accordance with the requirements of the international standard ISO 14064-3:2009: Greenhouse gases - Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions.

As part of Bureau Veritas' assurance, the following activities were undertaken:

- Interviews with relevant personnel of Daikin responsible for the identification and calculation of GHG emissions;
- Review of Daikin's information systems and methodology for collection, aggregation, analysis and review of information used to determine GHG emissions; and
- Audit of a sample of source data to check accuracy of quantified GHG emissions.

**3. Conclusion**

Based on the verification work and processes followed, there is no evidence to suggest that the GHG emissions assertions shown below:

- are not materially correct and are not a fair representation of the GHG emissions, as per the scope of work;
- are not prepared in accordance with the methodology for calculating GHG emissions established and implemented by Daikin.

Verified greenhouse gas emissions		
Scope 1	Scope 2	Scope 3
1,066,684 t-CO <sub>2</sub> e	810,204 t-CO <sub>2</sub> e (location-based) 963,109 t-CO <sub>2</sub> e (market-based)	195,969,703 t-CO <sub>2</sub> e

The breakdown of Scope 3 emissions are as follows:

Category 1: 2,252,671 t-CO<sub>2</sub>e | Category 4: 22,954 t-CO<sub>2</sub>e | Category 6: 13,239 t-CO<sub>2</sub>e  
Category 11: 193,710,839 t-CO<sub>2</sub>e

**[Statement of independence, impartiality and competence]**

Bureau Veritas is an independent professional services company that specializes in Quality, Health, Safety, Social and Environmental management with over 150 years history in providing independent assurance services. No member of the verification team has a business relationship with Daikin, its Directors or Managers beyond that required of this assignment. We conducted this verification independently and in our knowledge there has been no conflict of interest. Bureau Veritas has implemented a Code of Ethics across the business to maintain high ethical standards among staff in their day-to-day business activities. The verification team has extensive experience in conducting assurance over environmental, social, ethical and health and safety information systems and processes.

The Daikin website gives the calculation method for environmental performance data.



## Overall CSR (Including SRI)

### Daikin Group

- Chosen for inclusion in the MSCI Global Sustainability Indexes.



- Chosen for inclusion in the Morningstar Socially Responsible Investment Index.



- Chosen for Clarivate Analytics' Top 100 Global Innovators for 2016.

## Environmental Honors

### Daikin Industries, Ltd.

- Technology and Innovation Center received the highest rank of Platinum Certification in LEED for New Construction, a system for the evaluation of environmentally responsible buildings.



- Daikin Industries, Ltd.'s Shiga Plant won an "Award of Excellence in the 2016 Environmental Employee Awareness Award"
- The "Forests for the Air" project won the Aroma Environment Association of Japan Prize in the Contest for Corporate Activities on Biodiversity.

## Product Honors

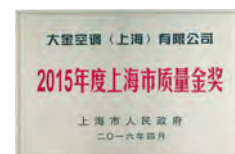
### Daikin Industries, Ltd.

- Awarded the Minister's Prize, the Ministry of Economy, Trade and Industry in the 2016 Energy Conservation Grand Prize, for the Retrofit System maintenance service.
- Awarded the Chairman Prize of Energy Conservation Center, Japan (ECCJ) in the 2016 Energy Conservation Grand Prize, for residential multi-split-type air conditioners that can connect with floor heating.
- Awarded the Chairman Prize of Energy Conservation Center, Japan (ECCJ) in the 2016 Energy Conservation Grand Prize, for improving air conditioner energy efficiency using IoT in senior citizens' homes.



### Daikin Air-Conditioning (Shanghai) Co., Ltd.

- Won the "Shanghai Quality Award" from the Shanghai municipal government.



### Daikin Air-Conditioning Technology (Shanghai), Ltd.

- Won an "Outstanding Call Center Award" in prizes sponsored by 51Callcenter.



## Human Resource Honors

### Daikin Industries, Ltd.

- Granted "Nadeshiko Brand" designation for the fourth time, and the third consecutive year, by the Ministry of Economy, Trade and Industry.
- Awarded the highest level of certification (L-boshi certification) from Japan's Ministry of Health, Labour and Welfare for being a company that shows excellence in promoting the talents of women in the workplace.



### Daikin (China) Investment Co., Ltd.

- Won the "China Model Human Resources Hiring Company Prize" in awards sponsored by 51job, China's leading human resource solutions provider.



## Management Honors

### Daikin Industries (Thailand) Ltd.

- Won a 2016 Thailand Prime Minister Award (in the energy management category), sponsored by the Department of Industrial Works of Thailand.



### Daikin Europe N.V.

- The Ostende Plant was awarded a Factory of the Future Award from Agoria, Belgium's largest employers' association and trade association.



## About This Report

### ■ Editorial Policy

This report covers our basic philosophy for realizing sustainable growth of the Daikin Group, fiscal 2016 achievements, and future plans.

When we formulated Fusion 20 in fiscal 2015, we revised our most important tasks. As a result, we came up with four themes of CSR for value provision—Environment, New value creation, Customer satisfaction, and Human resources—and five themes of fundamental CSR—Corporate governance, Respect for human rights, Supply chain management, Stakeholder engagement, and Communities—aimed at sustainable growth for both Daikin and society.

The report consists of a printed version and an online version. The printed version covers the Daikin Group's strategies for a sustainable society, the four themes of CSR for value creation (Environment, New value creation, Customer satisfaction, and Human resources), and key information related to the five themes of fundamental CSR on which the four themes of CSR for value creation are founded.

The online version goes into more detail than the printed version, and also gives other information such as case studies from the past.

#### Sustainability Website



<http://www.daikin.com/csr/>

#### Investor Relations Website



<http://www.daikin.com/investor/>

▲  
Please refer to the following website for the latest financial information, annual reports, and other IR information.

#### Reference Guidelines:

This report was created in line with the Environmental Reporting Guidelines (fiscal 2012 edition) released by Japan's Ministry of the Environment, and the 2016 GRI Standard released by the Global Reporting Initiative (GRI). Guideline comparison tables are on our website. Our CSR activities are conducted in line with ISO 26000.

Since 2008, the Daikin Group has been taking part in the United Nations Global Compact, an initiative for companies committed to operating based on 10 universally accepted principles in areas including human rights, labor, the environment, and anti-corruption. Daikin also issues this CSR Report as an annual Communication on Progress (COP) to the United Nations, a public disclosure on progress made in implementing the 10 principles of the Global Compact.

#### Third-Party Verification:

To ensure reliability of the content of this report, the Daikin Group had a third-party verification conducted for data on greenhouse gas emissions, water use, and wastewater. (See page 27.)

#### Daikin Organizations Covered:

This report covers Daikin Industries, Ltd. and its consolidated subsidiaries. Environmental performance data, however, covers four Daikin Industries, Ltd., production bases; eight production subsidiaries in Japan, and 47 production subsidiaries overseas.

#### Term Covered:

This report covers fiscal 2016  
(April 1, 2016, to March 31, 2017).

#### Publication Date:

July 2017 (Japanese edition)

The next publication (Japanese) is planned for July 2018.  
The next English edition is scheduled for publication in September 2018.

#### Contact Information:

CSR & Global Environment Center,  
Daikin Industries, Ltd.  
PHONE: +81-6-6374-9304 FAX: +81-6-6374-9321  
Email: [csr@daikin.co.jp](mailto:csr@daikin.co.jp)

#### Note

In reporting on fiscal 2016 CSR activities, data was carefully reviewed and was revised in cases where discrepancies occurred between actual fiscal 2016 results and information reported for fiscal 2015. Also, because figures are rounded off, totals may not equal the sum of individual figures.

#### Forecasts, Expectations, and Plans

This report includes forecasts, expectations, and plans, in addition to past and present facts, about Daikin Industries, Ltd., and its subsidiaries (collectively called the Daikin Group). Please be aware that these are assumptions and judgments made based on the information available at the time this report was written and thus incorporate a degree of uncertainty. Consequently, there is a risk that events occurring in the future may turn out differently from the forecasts, expectations, and plans stated in this report.

## Company Profile

**Name:** Daikin Industries, Ltd.

**Address:** Umeda Center Bldg., 2-4-12, Nakazaki-Nishi, Kita-ku, Osaka, Japan

**Incorporated:** February 11, 1934

**Founded:** October 25, 1924

**Capital:** 85 billion yen

**Head Office:** Kita-ku, Osaka

**Tokyo Office:** Minato-ku, Tokyo

**Sakai Plant** (Sakai, Osaka Prefecture):

Air conditioning/refrigeration equipment, compressors

**Shiga Plant** (Kusatsu, Shiga Prefecture):

Air conditioning equipment, compressors

**Yodogawa Plant** (Settsu, Osaka Prefecture):

Fluorochemical products, oil hydraulic equipment, defense/medical equipment

**Kashima Plant** (Kamisu, Ibaraki Prefecture):

Fluorochemical products

## Main Products

### Air Conditioning and Refrigeration Business

Residential air conditioners, heat-pump hot-water-supply and space-heating systems, commercial air conditioners, absorption refrigerators, humidity-adjusting external air-processing units, air purifiers, water chillers, air-handling units, marine-type container refrigeration

### Chemicals Business

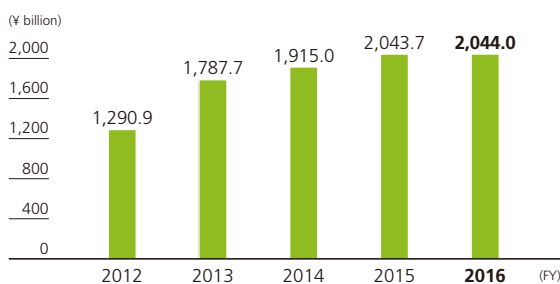
Fluorocarbons, fluororesins, fluoroelastomers, chemical products and functional materials, chemical engineering machinery

### Oil Hydraulics Business, Defense Systems Business, Electronics Business

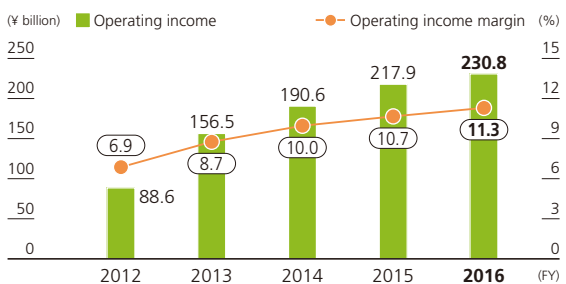
Oil hydraulic pumps, oil hydraulic units, oil hydraulic valves, cooling equipment and systems, hydrostatic transmissions, centralized lubrication units and systems, warheads for Japan's Ministry of Defense, warhead parts for guided missiles, home-use oxygen therapy equipment, CAD software for facility design, molecular chemistry software

## Corporate Data

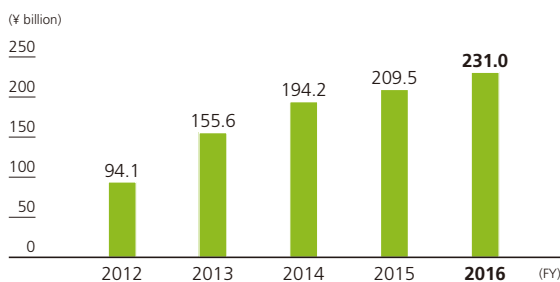
### Net Sales



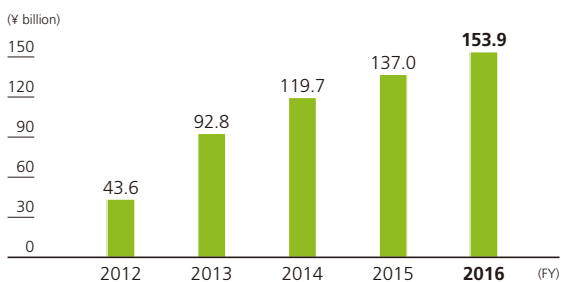
### Operating Income and Operating Income Margin (Consolidated)



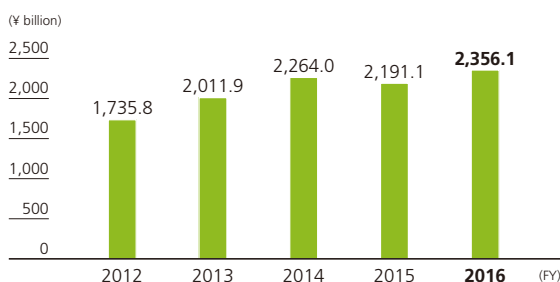
### Ordinary Income (Consolidated)



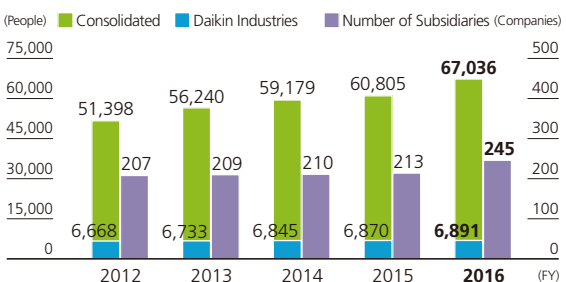
### Profit Attributable to Owners of Parent (Consolidated)



### Total Assets (Consolidated)



### Number of Employees (Workforce), Number of Subsidiaries





# **DAIKIN INDUSTRIES, LTD.**

Inquiries

## **CSR & Global Environment Center**

Umeda-Center Bldg., 2-4-12, Nakazaki-Nishi, Kita-ku, Osaka, 530-8323 Japan  
PHONE: +81-6-6374-9304 FAX: +81-6-6374-9321

You can also view this report on our website.

**URL** <http://www.daikin.com/csr/>

We welcome your thoughts and opinions on this report.

**URL** <https://www.daikin.com/contact/report/csr/>

Published September 2017

In all of us,  
a green heart



### **The Daikin Group Environmental Symbol**

The symbol of the Earth in the shape of a green heart represents a determination on the part of each and every employee of Daikin to think green (think of the Earth and take care of the environment).



### **Certified by Minister of the Environment**

For its range of environmentally advanced efforts, Daikin has been certified as an Eco-First Company by Minister of the Environment of Japan.



This is our **Communication on Progress** in implementing the principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.