

# For the Air We Live in

Sustainability 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





# For the Air We 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.

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# Bringing the World Healthy, Comfortable Lifestyles

Daikin is a global manufacturer with overseas sales accounting for more than 70% of the group total and overseas employees accounting for 80% of the group 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.

## **BUSINESS**

Our Business: Providing Healthy, Comfortable Lifestyles through Air Conditioning and Fluorochemical Technologies



2009 2010 2011 2012 2013 2014 2015 2016 2017 **2018** (FY)

In this printed version of the Daikin Sustainability Report, "Daikin" refers to the Daikin Group and "Daikin Industries" refers to Daikin Industries, Ltd.





# Aspire for Greater Growth by Solving Social Issues in the Air and Environment Fields

Despite growing uncertainty facing the global economy, including U.S.-China trade friction, the Daikin Group posted its sixth straight year of record high business results in fiscal 2018 through aggressive investments and various measures carried out under the Fusion 20 Strategic Management Plan.

We will continue making strategic investments aimed at business growth while building a robust corporate structure that can grow continuously and give back to society.

# Achieving Growth by Contributing to Solving Social Issues

Air conditioners, Daikin's flagship products, have revolutionized labor and lifestyles in hot regions, contributing to economic growth and higher-quality lifestyles. Today, they have become a key part of the infrastructure supporting society.

I believe Daikin will play an important role in achieving the Sustainable Development Goals (SDGs), a set of common international targets for 2030. Driven by economic growth in emerging markets, demand for air conditioning is expected to more than three times by the year 2050. Increasing the penetration rate of air conditioners will contribute to people's health by preventing heatstroke and improving the indoor air environment, whereby boosting economic growth by increasing labor productivity. At the same time, electricity use will naturally increase as air conditioners spread, which will have a growing impact on global warming. As a result, we will focus not only on mitigating global warming impacts of air conditioners, but also spread environmentally conscious products using energy-efficient inverter technology and R-32, a refrigerant with low global warming potential. This will position us to transform these issues into an opportunity for business development and provide energy-saving solutions using networks and control technologies.

In 2018, we released Environmental Vision 2050 which aims to achieve net zero emissions of greenhouse

gases while providing a safe and healthy environment, with an eye on 2050. In addition to products and solutions, we will utilize renewable energy and improve the interaction between air conditioning and buildings, to achieve greater growth while helping address social issues such as climate change.

#### Sustainable Development Goals (SDGs)



In 2015, the United Nations adopted the SDGs in an effort to solve worldwide problems related to issues such as poverty, inequality, and climate change. The SDGs call on governments, companies, and citizens' groups to play a role in achieving the goals by the target year of 2030.

#### Endorsement of the TCFD Recommendations

With environment, social and governance (ESG) investment growing, investors are now paying closer attention to how companies address climate change. In May 2019, Daikin Industries, Ltd. endorsed the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), which aims to mitigate

#### 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



risks of instability in financial markets attributed to climate change.

We will continue to consider climate change to be an important issue impacting business continuity. We will analyze risks and opportunities to our businesses and reflect findings in management strategy and risk management. We will also actively disclose information. Furthermore, we will address the risks we identify and transform them into business opportunities in an effort to further enhance corporate value.



TCFD was established by the Financial Stability Board in 2015. It recommends that companies evaluate business risks and business opportunities linked to climate change as well as identify financial impacts and make disclosures.

#### **Business Creation Using Open Innovation**

In order to achieve further growth and provide greater value to society, it is vital that we move away from full in-house development and embrace cooperation so that we can speed up development of technologies and products using open innovation. Daikin has focused efforts on collaboration with universities and research institutes, along with companies from other industries, both inside and outside of Japan. In December 2018, we concluded a "University Corporate Relations Agreement" with the University of Tokyo. Under this agreement, both organizations will contribute their strengths toward not only joint research, but also personnel exchanges and collaboration with venture companies tied to the university.

To beat out global competition and help build a sustainable society, we will produce innovation around the theme of adding value to air, which will be of growing importance for the future, while aiming to contribute to complex social issues and create new business ventures.

### Acting as a Good Member of Society

Since 2008, Daikin has supported the UN Global Compact comprised of 10 principles covering the four fields of human rights, labor, environment, and anti-corruption. We continue to take steps to ensure soundness and ethics across our value chain.

As a corporate group that will "Co-create New Value in the Air and Environment Fields with Wisdom and Passion," we will continue to live up to the expectations of various stakeholders from customers and shareholders to suppliers and local communities, while solving social issues through our businesses.

Masanari Jogawa

Masanori Togawa President and CEO Daikin Industries, Ltd.

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# 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. Daikin aims to contribute to sustainable growth for the world by solving social problems and providing society with new value.

#### Social Problems Daikin Can Help Solve

- Intensifying climate change
  - Increase and concentration of demands for electricity and other energy forms
     Intensifying atmospheric pollution

International Int Frameworks toward Solving Society's Problems

- International Frameworks
- Sustainable Development Goals (SDGs)
   Kigali Amendment to the Montreal Protocol
   Paris Agreement

### 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 hygiene management in industries such as pharmaceuticals and food through, for example, dust collection filters and high-performance filters.

#### Our Group Philosophy

The basic management philosophy for the thoughts and actions of all employees  A strategic management plan formulated every five years that stipulates the direction of the group's progress  An environmental vision for taking action to achieve net zero greenhouse gas emissions over the long term (formulated in 2018) Details on page 13

**Environmental Vision 2050** 

#### Fusion 20 Strategic Management Plan

CSR Action Plan 2020

The CSR Action Plan 2020 sets targets for 2020
regarding nine key CSR themes Details on page 11

#### Daikin's Management toward Value Creation

In aiming to grow by solving social problems, Daikin carries out management toward creating value in the short, medium, and long terms.

For the short and medium terms, we have formulated our CSR Action Plan to assess the impact our business has on society. For the long term, we have formulated Environmental Vision 2050, through which we aim to reduce greenhouse gas emissions to net zero by 2050 and identify possible risks and opportunities for Daikin in the future. Centered on our Fusion 20 Strategic Management Plan, we set concrete targets every five years and propose and implement measures toward achieving these.

### **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.

#### Value Creation for the Earth

#### Value Creation for Cities

Reduce environmental impact through all business activities and contribute to alleviating climate change

- Further raise the environmental performance of products
- Make effective use of resources
- Protect forests and help sustain their inherent functions
- Contributing to solving energy-related issues arising from urbanization and contribute to the creation of sustainable cities
- · Effectively use energy throughout entire buildings and entire cities
- Build systems for recycling-based societies Create new types of energy

Sustainable Development Goals (SDGs) targeted





## Sustainable Development Goals (SDGs) targeted

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#### Value Creation for People

Pursue new possibilities for air and contribute to healthy, comfortable lifestyles

- Protect people from heatstroke and infectious diseases
- Protect people's health from atmospheric pollution
- Improve indoor environments to support people's comfortable and affluent lifestyles
- Raise productivity to contribute to economic advancement



Sustainable Development Goals (SDGs) targeted

### Human Resource Development Supports Value Creation

Foster human resources who spur innovation and who spread newly created value around the world.

#### Contribute to the growth of employees and local citizens

- Training of highly skilled personnel
- Job creation
- Contribution to local economic development
- Creation of new products and services that help raise people's lifestyles



### Sustainable Development Goals (SDGs) Daikin Is Contributing to through Its Business



Ensure healthy lives and promote well-being for all at all ages Prevention of heatstroke and infectious diseases, measures against air pollution, increase in productivity, etc.



Ensure access to affordable, reliable, sustainable and modern energy for all Increase in energy efficiency, use and spread of renewable energy, etc.



promote sustainable . industrialization and foster innovation ZEB (net-zero energy buildings) initiatives,

promotion of energy management and demand response, etc.



Ensure sustainable consumption and production patterns Initiatives for energy efficiency during production, recycling, resource efficiency, etc.



Take urgent action to combat climate change and its impacts Spread of inverter products, refrigerants with lower global warming potential, and heat pump products, etc.



# Establishing Key CSR Themes toward

In understanding society's challenges, Daikin assesses the impact that its business activities have on society, and identifies key challenges (materiality) from two aspects—"stakeholder concerns and impacts," and "importance to Daikin." We have organized these challenges into our key CSR themes, which have been reflected into our strategic management plans. Each key theme has targets that we are working toward.

# / Understanding Stakeholder Concerns and Impacts

One important judgment criterion in analyzing materiality is stakeholder concerns and impacts. To fully understand this, Daikin follows international frameworks toward solving society's challenges (global risks), and it takes into account stakeholder assessments of Daikin and the wishes and opinions that stakeholders have expressed in dialogue with Daikin.

Society's challenges (Global risks)

- Extreme weather events and temperatures
- Natural disasters
- Failures of climate change mitigation and adaptation
- Cyber attacks
   Water crises
- Note: Five most highly probable risks taken from the World Economic Forum Global Risks Perception Survey 2017-2018

International frameworks

- Paris Agreement to the UN Framework Convention
- on Climate Change
- Kigali Amendment\* to the Montreal Protocol
- Sustainable Development Goals (SDGs)
- UN Global Compact (UNGC)
- \* International agreement to phase down the global warming impact (CO2 equivalent) of HFCs.

Assessments of Daikin, stakeholder dialogue ESG assessment

- Dialogue with stakeholders
- Briefings for shareholders and investors
- Air Conditioner Forums
- Dialogue with international organizations, NPOs, NGOs, etc.

# $2\,$ Assessing the Impact of Our Business on Society throughout the Entire Value Chain

Value chain	Business impact, what Daikin to do	Efforts of significant n	nateriality
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> <li>Supply chain management</li> <li>Anti-corruption</li> <li>Free competition and fair busing</li> </ul>	ness dealings
Development, Design	As air conditioner demand grows in emerging markets and other countries, Daikin must develop products that offer superb environmental performance and comfort and meet regional needs.	Response to climate change     Effective use of resources     and energy     Measures against     atmospheric pollution	<ul> <li>New value creation</li> <li>Product quality and safety</li> <li>Customer satisfaction</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> <li>Management of chemical substances</li> <li>Waste and water-use reduction</li> </ul>	Information security
•			
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> <li>Response to climate change</li> <li>Product quality and safety</li> <li>Customer satisfaction</li> </ul>	<ul> <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> <li>Response to climate change</li> <li>Measures against atmospheric pollution</li> </ul>	Customer satisfaction
-			
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> <li>Response to climate change</li> <li>Waste and water-use reduction</li> </ul>	<ul> <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> <li>Human resource development</li> <li>Workplace diversity</li> <li>Occupational safety and health</li> </ul>	<ul> <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. NPOs. NGOs. key individuals. and local communities.	<ul> <li>Response to climate change</li> <li>Biodiversity protection</li> <li>Communities</li> </ul>	Stakeholder engagement

# Sustainable Development

# ${\it 3}$ Identifying Materiality and Organizing It into 9 Key CSR Themes

We identified materiality from the two aspects of "stakeholder concerns and impacts" and "importance to Daikin," and together with the formulation of the Fusion 20 Strategic Management Plan we organized nine materiality issues as key themes in fiscal 2015: four themes of CSR for value provision, and five themes of fundamental CSR. Note that in fiscal 2018, when formulating plans for the final three years of Fusion 20, we revised some materiality issues based on the changing situation.



Daikin's 9 Key CSR Themes

We provide healthy and comfortable air environments for

people around the world while at the same time reducing

#### **CSR for Value Provision**

#### Fundamental CSR

We respond to society's requests through corporate action based on transparency and sincerity.

environmental impact.				
Environment	Customer Satisfaction	Corporate Governance	Supply Chain Management	Communities
New Value Creation	Human Resources	Respect for Human Rights	Stakeholder Engagement	

### 4 Formulating a CSR Action Plan and Reflecting This into the Fusion 20 Strategic Management Plan

The nine key CSR themes have been incorporated into the Fusion 20 Strategic Management Plan as important management items that are being put into action group-wide. In fiscal 2018, we established targets for 2020, which include quantitative indicators for the various CSR themes. These were reorganized as the CSR Action Plan 2020. In implementing this plan, we will contribute to solving society's challenges and respond to stakeholder demands.

Daikin has formulated CSR Action Plan 2020, which sets targets for 2020 regarding four themes of CSR for value provision and five themes of fundamental CSR that we are working toward across the entire Daikin Group. Here, we report on the 2020 targets and the fiscal 2018 achievements regarding these themes.

	Key CSR Themes	About the CSR Initiatives	2020 Target
		<ul> <li>Provide Environmentally Conscious Products and Services Worldwide</li> <li>Promote use of energy-efficient air conditioners, including inverter products</li> <li>Promote use of air conditioners using refrigerants with lower global warming potential</li> <li>Promote use of heat-pump-type heating systems and hot water heaters</li> <li>Expand our environmental solutions business</li> </ul>	<ul> <li>Through the worldwide adoption of environmentally conscious products, contribute to reducing greenhouse gas emissions</li> <li>million tons-CO2</li> </ul>
	Introduce state-of-the-art technologies to the market in order to address environmental and energy issue	Minimize Environmental Impact in Production Activities • Reduce greenhouse gases • Make effective use of water and other resources • Reduce chemicals • Promote green procurement	<ul> <li>Greenhouse gas emissions during development and production for entire Daikin Group</li> <li>70% reduction over fiscal 2005 (reduced to 1.58 million tons-CO2)</li> </ul>
CSR for		<ul> <li>Expand the Green Heart Circle of Love for the Earth</li> <li>Encourage employees to take part in environmental activities inside and outside work</li> <li>Promote environmental and social contribution activities</li> </ul>	<ul> <li>Achieve Green Heart Factory certification for all production bases</li> <li>Preserve 11 million hectares of forest at 7 worldwide locations</li> <li>Implement and expand environmental activities in collaboration with stakeholders</li> </ul>
Value Provision	New Value Creation Share dreams and ambitions inside and outside Daikin to realize a healthy, comfortable lifestyle through air	Create New Value to Meet the Expectations of Customers and Society • Value Creation for the Earth • Value Creation for Cities • Value Creation for People	<ul> <li>Use IoT and AI for open innovation that creates new value</li> </ul>
	Customer Satisfaction Provide peace of mind and reliability through a focus on customer orientation, experience, performance, and advanced technologies	Provide Customers with the Ultimate Satisfaction • Ensure safety and quality • Pursue customer satisfaction	<ul> <li>Establish a high standard of quality</li> <li>Establish a service network covering the globe</li> <li>Grasp worldwide customer needs and pursue high customer satisfaction</li> </ul>
	Human Resources Respect individual personalities and values, and maximize the potential of each employee so that they can benefit Daikin and society as a whole	Create a Work Environment Where Employees Can Use Their Talents to the Fullest through People-Centered Management • Develop human resources • Promote workplace diversity • Promote occupational safety and health	<ul> <li>The ratio of excellent or advanced skilled engineers in manufacturing: <ol> <li>in 4 employees</li> </ol> </li> <li>100 female managers (Daikin Industries, Ltd. only)</li> <li>Increase percentage of overseas bases where local nationals are presidents</li> <li>Frequency rate (shows frequency of occurrence of labor accidents): 0</li> </ul>
	Corporate Governance	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	<ul> <li>Degree of independence from the company, diversity, and transparency of the Board of Directors (Daikin Industries, Ltd. only)</li> <li>Thoroughness of compliance</li> </ul>

	Corporate Governance	and raise the level of management transparency and soundness to	Directors (Daikin industries, Ltd. only)
Fundamental CSR		raise corporate value	<ul> <li>Thoroughness of compliance</li> </ul>
	Respect for Human Rights	Show respect for basic human rights in accordance with all international norms based on the laws and regulations of each country and region	•Thoroughness of respect for human rights
	Supply Chain Management	Fulfill corporate social responsibility through environmental impact reduction, quality assurance, and occupational safety and health throughout the entire supply chain	<ul> <li>Conduct CSR procurement</li> </ul>
	Stakeholder Engagement	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	<ul> <li>Engage in dialogue with stakeholders and reflect this dialogue into management</li> </ul>
	Communities	Respect the culture and history of different countries and regions, and create strong bonds with communities as a good corporate citizen	<ul> <li>Contribution to environmental conservation, education support, and cooperation with the local community</li> </ul>

Quantitative Index	Fiscal 2018 Achievements	Explanation of Index
<ul> <li>Through the adoption of environmentally conscious products, contribute to reducing greenhouse gas emissions</li> </ul>	●67 million tons-CO2	We measured how much we contributed to reducing greenhouse gas emissions through the adoption of Daikin's environmentally conscious products.
<ul> <li>Environmentally conscious products as percentage of group sales (residential air conditioners)</li> </ul>	●93%	We measured how much we increased sales volume of air conditioners using inverter technology and refrigerants with lower global warming potential.
<ul> <li>Reduction ratio of greenhouse gas emissions from development and production (over fiscal 2005)</li> </ul>	•75% reduction (reduced to 1.31 million tons-CO <sub>2</sub> )	We measured how much we reduced greenhouse gas emissions generated in the product manufacturing and other processes.
<ul> <li>Number of factories certified as Green Heart Factories</li> </ul>	•24 bases (Gold Rank: 2 Silver Rank: 10 Bronze Rank: 12	We measured the increase in the number of production bases that achieved Daikin's in-house standards for environmental action.
• Contribution to CO2 emission reductions through forest preservation	•7 million tons-CO2	We measured contribution to CO <sub>2</sub> emission reductions through forest preservation activities at 7 worldwide locations where we are working together with international NGOs and other groups.
<ul> <li>R&amp;D expenditure</li> </ul>	●65.2 billion yen	
•Number of patent applications	<ul> <li>Japanese applications: 904</li> <li>Overseas applications: 434 (FY2017) (Daikin Industries, Ltd. only)</li> </ul>	We measured how much we invested in value creation and how many new technologies we came up with.
<ul> <li>Progress rate of after-sales services, regarding the base year as 1.00</li> </ul>	• Japan: 1.13 • Singapore: 1.00 • Indonesia: 1.03 • India: 1.09 • Spain: 1.15	We measured how much we improved after-sales service customer satisfaction compared to the base year.
<ul> <li>The ratio of excellent or advanced skilled engineers in manufacturing</li> </ul>	•1 in 2.9 employees (Daikin Industries, Ltd. only)	We measured the number of employees we trained, out of those involved in manufacturing, who possess advanced skills and knowledge and who can lead production activities.
Number of female managers	•59 (Daikin Industries, Ltd. only)	We measured progress in training women to be managers in Japan.
<ul> <li>Percentage of overseas bases where local nationals are president</li> </ul>	•46% (overseas bases)	We measured progress in appointing local nationals as presidents of overseas bases.
• Frequency rate	●1.38	We measured how well we succeeded in the safe operation of production bases.

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<ul> <li>Number of directors who are outside the company, women, and foreign nationals</li> </ul>	<ul> <li>3 outside directors, 1 female director, 2 foreign national directors (Daikin Industries, Ltd. only)</li> </ul>	We measured the diversity of the make-up of directors.
• Self-assessment implementation rate	●99%	We measured how well we were in compliance through the implementation rate of self assessments.
• Self-assessment implementation rate	●99%	We measured how thorough we were in respect for human rights through the implementation rate of self assessments.
<ul> <li>CSR procurement rate</li> </ul>	•94% (Daikin Industries, Ltd. only)	We measured the percentage of suppliers that achieved Daikin's in-house standards.
<ul> <li>Number of air conditioner forums held, number of outside participants</li> </ul>	•6 forums held in 5 worldwide regions; 114 participants from 37 countries; university professors, specialists, etc.	Among the engagement activities, the number of times dialogue was held with key figures from around the world on air conditioning, a core Daikin business.
• Expenditure for social contribution activities	●1.4 billion yen	We calculated the monetary amount, through donations, goods, and other ways, that we provided to communities.

# **Environmental Vision 2050**

Adopted in 2015, the Paris Agreement contains a target for the latter half of this century of reducing greenhouse gas emissions to net zero and limiting global warming by less than 2°C compared to pre-industrial levels. In the spirit of the Paris Agreement, Daikin has formulated Environmental Vision 2050, with a target of reducing greenhouse gas emissions to net zero by 2050. Besides reflecting this vision in the final three years of the Fusion 20 Strategic Management Plan, we have begun to make a medium- to long-term strategy with targets for 2030.

### **Formulation of Environmental Vision 2050**

Looking long term, we have predicted how society will change by 2050 and have made a list of the risks and opportunities for Daikin's business. Based on this, we have set a direction we must take in using our resources to solve environmental problems.



### **Environmental Vision 2050**

We will reduce the greenhouse gas emissions generated throughout the entire life cycle of our products.

Furthermore, we will create solutions that link society and customers as we work with stakeholders to reduce greenhouse gas emissions to net zero.

Using IoT and AI, and open solutions, we will meet the world's needs for air solutions by providing safe and healthy air environments while at the same time contributing to solving global environmental problems.



### Making a Medium- to Long-Term Strategy toward Achieving Environmental Vision 2050

As a result of analyzing our future air conditioner business so that Daikin products can bring the world new added value for air, and so that our products and solutions can help achieve net zero greenhouse gas emissions, we will formulate targets for 2030, integrate them into the Fusion Strategic Management Plan, and implement measures as action plans.



### Growth Strategy Based on Risks and Opportunities

The forecast for rapidly increasing demand for air conditioning—Daikin's main business—presents us with a huge opportunity. But along with this come risks for the continuation of our air conditioning business: increased air conditioning means greater energy needs, increasing electricity provision costs, and higher greenhouse gas emissions.

We aim to respond to these risks by turning them into opportunities. We will do this by reducing our environmental impact by, for example, developing and spreading the use of high-efficiency air conditioners, creating solutions for buildings that utilize energy effectively throughout the entire facility, and developing and spreading the use of refrigerants with lower global warming potential. In this way, we aim to protect the environment while growing our business.

#### IEA The Future of Cooling Forecast

In May 2018, the International Energy Agency (IEA) released *The Future of Cooling*. The report looks at air conditioning and how the rise in its use is driving global energy demand.

According to *The Future of Cooling*, estimates are for air conditioning demand to rise rapidly and for energy demand for space cooling to triple by 2050.



# CSR for Value Provision

# Environment (See pages 16-18)

Introduce state-of-the-art technologies to the market in order to address environmental and energy issue

# New Value Creation (See pages 19-20)

Share dreams and ambitions inside and outside Daikin to realize a healthy, comfortable lifestyle through air

# Customer Satisfaction (See pages 21-22)

Provide peace of mind and reliability through a focus on customer orientation, experience, performance, and advanced technologies

# Human Resources (See pages 23-24)

Respect individual personalities and values, and maximize the potential of each employee so that they can benefit Daikin and society as a whole



# Promoting the Spread of Energy Efficient Technology through Dialogue and Collaboration with Governments and International Agencies

# Why is it important?

Concerns over Rising Environmental Impacts from Sharply Increasing Demand in Emerging Countries

Currently, only 8% of the population owns air conditioning in countries that require it due to high temperatures, such as those in Asia and Africa. However, the number of regions requiring air conditioning will increase further in the future due to rising temperatures, while demand for air conditioning is expected to increase sharply thanks to economic growth mainly in emerging countries. According to *The Future of Cooling*, a report published by the International Energy Agency (IEA) in 2018, the number of air conditioners in the world is forecast to roughly triple from the current amount to 5.6 billion units by 2050. In addition, this sharp increase in air conditioners generate new peak electricity demand equivalent to all the electricity generated in Japan, the U.S. and Europe today.

Amid concerns of rising CO<sub>2</sub> emissions from electricity consumption, the IEA report cites the need to strike a balance between the predicted increase in air conditioning demand and reducing electricity consumption. Toward this end, it recommends the greater use of renewable energy along with the spread of energy efficient air conditioners and legislation on appropriate energy conservation standards.

As the only manufacturer in the world to produce both air conditioners and refrigerants, Daikin has a responsibility to harness its worldwide operations in helping to find solutions to these issues through the reduction of environmental impacts achieved with air conditioning.



### DAIKIN'S APPROACH

### Promoting the Spread of Energy Efficient Air Conditioners by Creating Energy Efficiency Standards

Daikin has promoted the spread of energy efficient air conditioners since before the IEA's recommendation. We are committed to spreading worldwide air conditioners using inverter technologies to reduce electricity consumption through more efficient operation.

Until now, we have focused on developing indicators and mechanisms for assessing the energy efficiency of air conditioners mainly in India and emerging countries in ASEAN. We have also supported the introduction of cooling seasonal performance factor (CSPF) as an indicator properly assesses the energy saving effects of inverters. As a result, in fiscal 2015, India rolled out a voluntary energy labelling program using CSPF as an assessment criterion. Daikin will continue to provide assistance aimed at the introduction of a unified program across ASEAN.

### DAIKIN'S **PERFORMANCE**

#### Expanding Initiatives to Mexico and Brazil

Currently, Daikin is implementing initiatives in various regions in order to expand its activities in Asia to the rest of the world.

In Mexico, where air conditioner demand is growing on the back of the country's economic development, the government has established a target to reduce greenhouse gas (GHG) emissions 22% by 2030. However, the low cost of electricity has meant little progress is being made in conserving energy.

In fiscal 2016, Daikin together with Mexico's National Institute for Electricity and Clean Energy conducted a demonstration test comparing non-energy efficient (non-inverter) air conditioners, which account for more than 70% of the local market, with Daikin's energy efficient (inverter) air conditioners. The results showed that the air conditioners with an inverter are about 60% more energy efficient because they use a highly efficient refrigerant. With these results in hand, we presented the effects of reduced electricity demand from the greater use of energy efficient air conditioners to the government of Mexico.

With our track record recognized, in 2018 our environmental conscious air conditioner promotion project proposed to Mexico was adopted for a Collaboration Program with the Private Sector for Disseminating Japanese Technology administered by the Japan International Cooperation Agency (JICA), with the support of the governments of Japan and Mexico.

In June 2018, a delegation from the government of Mexico visited Japan to observe Daikin's manufacturing plant and other facilities, where we shared knowledge related to energy efficiency policy. We aim to create markets for environmentally conscious air conditioners through workshops and

Initiatives to Spread Energy Efficient Air Conditioners in Emerging Countries

# 2013-2015 India

# Explanations for governments and technical support for evaluators

Explained the effectiveness of CSPF for its introduction as a method for evaluating the seasonal efficiency of cooling operation and instructed measurement methods.



# Support for the introduction of unified evaluation system

For governments in ASEAN that have decided to introduce an energy labeling system with the help of industry, we promoted understanding of CSPF and supported the introduction of a unified system in each country. Also, we provided technical support to local engineers on the handling of R-32 refrigerant.



Technical support in Malaysia

# Mexico / Brazil

Present energy conservation effects from demonstration tests to governments and promote understanding



Engagement with energy efficiency officials in Mexico





other opportunities to report the quantification of energy efficiency effects based on the results of the demonstration test in Mexico. In addition, under a similar JICA project in Brazil, we are raising awareness and making policy recommendations aimed at the spread of energy efficient air conditioners.

#### Confirming the Right Direction through Dialogue with International Agencies

The IEA released a report during the course of Daikin's initiatives, and in October 2018, Daikin invited Mr. John Dulac, an IEA analyst for building energy technology and policy, to be part of a seminar and panel discussion. The goal of the seminar was to confirm the direction of initiatives based upon a thorough understanding of the report's recommendations.

During the panel discussion attended by persons in charge from Daikin's operations in Europe, the U.S. and Asia, the IEA presented its stance that there are already technologies for balancing growing demand for air conditioning with controlling energy demand, but these solutions need to be spread further. On top of this, the IEA provided three other recommendations. First, manufacturers need to not only revolutionize technology for cheaper, higher efficiency air conditioners, but also use creative ingenuity for spreading the use of products and technologies. Second, the promotion of attractive technologies and services for consumers is key to spreading these products and services. Finally, third, the spread of these technologies requires that manufacturers correctly convey the advantages of technologies to government policymakers.

During the seminar, details of Daikin's Environmental Vision 2050 were also shared, and confirmation was made that Daikin will continue cooperating with the IEA going forward through close communication.

### Voice

Expectations for Daikin to Contribute to Global Efforts for the Future of Air Conditioning



Mr. John Dulac Energy Analyst, IEA

I find it very reassuring that Daikin has worked to promote dialogue globally on the future of air conditioning. Going forward, it will be more important than ever for industry, government and other air conditioning stakeholders to work together to find simple, high efficiency and low-carbon solutions. I have high expectations for the role Daikin will play in promoting such global collaboration.

### NEXT CHALLENGE

#### Creating a World Where People in Need Benefit from Air Conditioning and Environmental Impacts Are Controlled

To sustain the air conditioning business globally, Daikin will need to promote the spread of environmentally conscious products around the world and to introduce solutions to social issues advocated by the IEA from the standpoint of a business.

For this reason, Daikin will work even more closely on engagement with the IEA and the governments of each country to lobby for energy conservation and CO<sub>2</sub> emission reduction. Our goal is to create a world without added environmental impacts from air conditioning while benefiting from the cooling and heating provided, by offering products and services that satisfy the needs of customers, including not only energy conservation, but also affordable prices and usability.



# Creating Air Environments for Increasing Intellectual Productivity with Air Conditioning Solutions Using IoT and AI

# Why is it important?

Pursuing Value-Added Air for Further Boosting Intellectual Productivity

Air conditioning has played a major role in increasing intellectual productivity, such as enabling people in tropical climates to work just as efficiently as their counterparts in cooler climates. Daikin aims to create new air conditioning solutions that offer more advanced controls. This will involve using IoT and AI technologies to identify human factors (mental and physical condition of individual people) for improving the air environment.

#### **Examples of Human Factors**



### DAIKIN'S **APPROACH**

# Promoting Open Innovation in Pursuit of the Limitless Possibilities of Air

Daikin is promoting open innovation through tie-ups mainly between its Technology and Innovation Center (TIC) and various companies, research institutes, and universities. The goal of these partnerships is to create new value for air that goes beyond the air conditioning elements of temperature, humidity, air flow and purification.

In 2016, we began joint research with NEC Corporation aimed at air and spaces that increase intellectual productivity. By combining Daikin's strengths





of technology for optimizing air control and knowledge concerning the impacts of air and space on people with NEC's strength of leading IoT and AI technologies, we engaged in research with the goal of providing new solutions for optimal environmental controls in order to increase work performance (intellectual productivity) in offices.

### DAIKIN'S **PERFORMANCE**

#### Testing a Balance between Increased Intellectual Productivity and Comfort with Effective Temperature Stimulus

During this joint research, we focused on arousal level (an indicator of brain activity) which is correlated to intellectual productivity. This is because studies have shown that maintaining the right level of arousal without drowsiness or nervousness is important for improving performance.

As a result, we examined what methods and timing of stimuli help to maintain arousal at the right level when feeling drowsy. During the test, 55 test subjects performed simple two-digit addition to make them feel drowsy. They were then asked to report their level of drowsiness on a five-step scale every five minutes. We also estimated their drowsiness using image processing technology to take pictures of eye lid movements. As test subjects became drowsy, we added various stimuli such as air conditioning (temperature), lighting (illuminance), and aroma (fragrance), and observed changes.

The results confirmed that temperature stimulus from air conditioning can sustain the right level of arousal for longer compared to light and aroma stimuli, since the average arousal level compared to no stimuli was two steps higher and drowsiness was prevented for more than 45 minutes. When signs of drowsiness first appeared, the right level of arousal was maintained when lowering the room temperature three degrees Celsius. At this setting, room temperature can also be returned to the original setting in a short period of time. Therefore, the balance with comfort was also confirmed.

Past studies have shown that people become drowsy if they are too comfortable and that drowsiness

#### **Relationship between Arousal Level and Performance**

Yerkes-Dodson Law High Notifying and the second s

can be stopped with a flow of cool air. However, the mechanism was unclear and ways of preventing drowsiness while maintaining comfort were unknown. This research demonstrated that drowsiness prevention and comfort can be balanced using effective temperature stimulus, marking a major step toward air conditioning solutions that increase intellectual productivity. Looking ahead, we plan to accumulate data and create an air environment that considers various human factors by using IoT and AI.

#### **Changes in Arousal Level Due to Various Stimuli**



Source: Atsushi Nishino et. al, Approaches to Environmental Controls Considering Human Factors Annual Meeting Presentation Compilation 2018 of the Architectural Institute of Japan

## Voice

#### Validating This Research in Various Fields

Mr. Toshihiko Hiroaki General Manager Data Science Research Laboratories, NEC

We developed technology for quantifying drowsiness using NEC's AI technology along with control technology for air conditioning and lighting to prevent drowsiness. After testing the effects of these technologies in a work environment, we found that performance increased without sacrificing comfort. Going forward, we will continue to support activities in the field for validating this technology in real life business settings.

### NEXT CHALLENGE

#### Aiming for New Value Creation in Air for More Active Living

Looking ahead, we will work with other companies and universities to increase the overall quality of indoor spaces, not just office spaces, where people are said to spend 90% of their lives. This will include providing an air environment tailored to people's needs and condition, while combining the latest technologies, data and know-how.



# Global Product Development Structure to Quickly Address Various Regional Needs

# Why is it important?

Air Conditioning Needs Largely Differ by Region

There is growing worldwide demand for air conditioners following economic growth in emerging countries. However, the required functions and performance largely differs based on various factors such as climate, culture, and income level. Additional costs and time are necessary to develop the products localized to consumer needs. Daikin recognizes that to enhance customer satisfaction we need to supply products suited to local needs quickly and at an affordable price.

#### **Examples of City-Specific Needs**

City	Regional Needs	
Delhi	Heating and cooling needs due to seasonal temperature differences; compatible with frequent power outages	••
Jakarta	Smaller sized outdoor units compatible with urbanization	•
Singapore	Energy efficient air conditioners for buildings that can operate extended hours	•
Paris	Emphasis on quiet operation and interior design	• •
New York	Durability for central air conditioning that is always on	••
Demand for cooling     Or cooling     Or cooling		

### DAIKIN'S APPROACH

### Supplying Localized Products at the Right Prices Using Base Models and Localized Development

With operations in over 150 countries around the world, Daikin not only establishes plants close to markets, but also hires and fosters engineers locally in each region, thereby enhancing product development capabilities.

Moreover, we created a "base model" in Japan that encompasses the basic functions and components that comprise products. This is utilized in the "base model development method" where each region can

#### Daikin R&D Centers





malfunctions caused by damages resulting from off-road transportation were addressed by changing

the product baseplate or packing materials. Also, to

By carefully addressing local needs, our R&D Center in India has honed its product development

capabilities, which mainly involves addressing high

outside temperatures. As the central and coastal regions often see days of over 46°C, which exceeds

the limit of the base model, the R&D Center has

developed ways to accommodate temperature up to

54°C based on its own research studies. This technology

is not only utilized in India but is also exported to the

address pipe corrosion due to gas from domestic wastewater released into the rivers, the affected pipes

were coated with special rust-proof material.

localize approaches to suit specific needs. This reduces costs and shortens product development lead time, enabling us to deliver products at the right prices to meet consumer needs.

### DAIKIN'S **PERFORMANCE**

#### Commercialization Speed Greatly Increased after the India R&D Center Established

India is one of the markets where we have successfully developed localized products by setting up an R&D center. Daikin started selling air conditioners in India in 2000 and established the Neemrana Plant in 2009. At that time, however, the plant lacked product development capabilities as products that were developed in Japan and Thailand were manufactured and sold in India. As a result, it took time to commercialize products that met market needs and we were not able to fully reflect consumer voices in our products.

In 2016, we established an R&D center inside the plant responsible for new product and technology development. This makes it possible for Indian developers who can directly hear consumer needs to promptly create prototypes and engage in testing, greatly reducing the time needed for commercializing products. Consequently, the lead time from identifying customer needs to delivering actual products is now as short as three months.

#### Local Development Base Able to Meticulously Meet Local Needs

The market for air conditioners in India differs greatly than Japan. Firstly, Daikin's R&D Center in India has identified issues unique to each region based on climate and electricity infrastructure.

Using the base model, we first tackled issues that can be addressed with minor changes. For example,



#### Challenges by Region and Examples of Solutions in India



Mr. Sanjeev Agarwal President A.S. Air System (Daikin Dealer)

Daikin's Prices and

**Consumers Happy with** 

**Response to Their Needs** 

Middle East.

Voice

Daikin excels at development. In the region we cover, consumers are very happy with products that suit their needs at an affordable price. This includes models with a heating function and models that are energy efficient. I look forward to Daikin's continued efforts to develop products localized for the India market.

### NEXT CHALLENGE

#### Speeding Up Product Development by Harnessing Technologies from Around the World across the Daikin Group

Daikin has established a production system headed by a global network of Mother R&D Centers where key technologies developed and consolidated in Japan are allocated to our fields of expertise in different regions. With the goal of making development even more efficient, in 2017 we established a total of five Mother R&D Centers, one each in Europe, the Americas, India, China and Japan, and with the Technology and Innovation Center (TIC) in Japan as the control tower, we strategically allocate engineers and medium- to long-term budgets for development.

Looking ahead, we will continue to supply products localized to customer needs around the world in a prompter and more cost effective manner, by sharing know-how across our development network, with an eye toward localized product development that takes into account the special needs of each market.



# Developing Human Resources to Promote the Spread of Air Conditioners in the Rapidly Growing Market of Vietnam

# Why is it important?

Key to Cultivate Engineers and Technicians Locally as the Market for Air Conditioners Grows Each Year

In Vietnam, where the average age is 30 years old and the population and economy continue to grow, demand for air conditioners increased approximately five-fold from 2008 to 2018, and this trend is expected to continue. However, along with rapid economic growth, there is a lack of engineers and technicians capable of manufacturing, installing and maintaining air conditioners. Therefore, it is imperative to start developing human resources in order to support the spread of air conditioners in Vietnam.

#### Demand for Air Conditioners in Vietnam



### DAIKIN'S APPROACH

#### Opening a New Plant in Vietnam to Promote the Spread of Energy Efficient Air Conditioners

The cost of electricity in Vietnam is high relative to household income, which has spurred demand for energy efficient air conditioners such as inverter air conditioners. In order to deliver a stable supply of high quality and highly energy efficient air conditioners, Daikin Vietnam opened a new plant in a suburb of Hanoi in May 2018. We plan to increase annual production capacity from 500,000 to 1,000,000 units as well as increase the total number of employees in Vietnam to over 2,000 by fiscal 2020. In addition, Daikin Vietnam is putting efforts into developing the human resources required for marketing and servicing air conditioners.

#### **Employees in Daikin Vietnam**

(People)	Production divisions	Sales and service	s divisions	
3,000				
1,500		1,779	2,250	
0	$171 \int_{0}^{1/1}$	-960	-1,250	
	2008	2018	2020 (plan)	(FY)

### DAIKIN'S **PERFORMANCE**

#### Overseas Locations Taking the Lead in Developing Human Resources in Manufacturing, Installation and Maintenance

With operations around the world, Daikin is now rapidly increasing its plants through business expansion and acquisitions. Our system of production places each region in the leading role. The launch of the new plant in Vietnam was led by Daikin Industries (Thailand) Ltd. (hereinafter called "Daikin Thailand") and manufacturing personnel at the new Vietnam plant were trained with the support of the Daikin headquarters in Japan (hereinafter called "Daikin Japan").

The new plant in Vietnam faces a lack of experienced personnel with basic skills in air conditioner manufacturing. Therefore, before the new plant's launch, about 60 managerial employees from Vietnam began training at the Daikin plant in Thailand, with this training still ongoing today. Moreover, with guidance from Daikin Japan, the plant has adopted the latest technologies including a production management system utilizing IoT, making it our first plant in Asia and Oceania to do so. This not only results in training in Vietnam but also cultivates personnel in Thailand, who in turn train workers in Vietnam. Such international exchanges enhance instructional and technical skills as well as increase motivation for both those receiving and providing training.

Moreover, as Daikin Vietnam lacks technicians capable of air conditioner installation and maintenance, we established a training center within the new plant where personnel from the company and dealers can receive training, with the collaboration of Daikin Japan and Daikin Thailand.

Personnel from Daikin Vietnam learn the basics at the training center and move on to more advanced technical training in Thailand thereafter. Following this, they acquire more practical experience through the services division and eventually are trained as instructors for dealers and outside technicians.



Instruction given at the training center

For our dealers, we provide both lectures as well as practical training on installation using actual air conditioner units. As of March 31, 2019, a total of 2,100 trainees have participated and our goal is to train a total of 10,000 people by fiscal 2020. Training is not limited to residential air conditioners, but also encompasses installation of multi-split type air conditioners for commercial buildings which require more advanced skills, whereby expanding the number of models carried by dealers.

### Voice

Contributing to the Human Resource Development across Borders





I am proud to be a global trainer who teaches the essential skills and knowledge for the manufacturing of air conditioners. On this occasion, I was involved training brazing technicians at the new plant in Vietnam. The opportunity to be involved in training at my home location as well as another location is a big challenge for myself, and I feel very lucky to have been chosen for this task. Going forward, I hope to continue enhancing my skills and teaching abilities as a global trainer in order to continue contribute to the development of technicians at the Daikin Group.

### NEXT CHALLENGE

#### Developing Human Resources to Support the Spread of Air Conditioners and Achieve Sustainable Growth with Communities

At Daikin, we are committed to empowering our local operations around the world, not just in Vietnam, to take the lead in developing their own human resources to support the air conditioning industry, including manufacturing and maintenance, as well as to provide instruction and training both within and across each location, whereby developing a pool of human resources who can play an active role at Daikin globally. Through such efforts, we hope to contribute to the development of each region and country as well as grow sustainably as a Group.

#### **Environment**



#### **Overview of Environmental Impact of Business Activities**

#### **Environmental Action Plan 2020**

Action targets		Fiscal 2020 target	Fiscal 2018 target	Fiscal 2018 results	Self- assessment
1 Provide Envi	ronmentally Conscious Produ	ucts and Services Worldwide			
Contribute to reducing the use of following p • Energy-efficient air co	g GHG emissions by spreading roducts nditioners such as inverter products	Contribution to greenhouse gas emission reductions <sup>*1</sup> 60 million tons-CO2	55 million tons-CO2	67 million tons-CO2	***
<ul> <li>Air conditioners using refrigerants with lower global warming potential</li> <li>Heat-pump-type heating systems and hot water heaters</li> <li>Environmental solutions business</li> </ul>		Increase in ratio of environmentally conscious products*2		Sales volume of environmentally conscious products as percentage of residential air conditioners 93% (FY2017: 83%)	***
2 Minimize Env	vironmental Impact in Produc	ction Activities			
	Emission Reductions	70% reduction over fiscal 2005 (reduction to 1.58 million tons-CO <sub>2</sub> )	72% reduction	75% reduction (reduction to 1.31 million tons-CO <sub>2</sub> )	***
Greenhouse Gas	Reduction of Energy-Induced CO2 Emissions	Unit reduction in energy-induced CO <sub>2</sub> emissions of 5% against standard value* <sup>3</sup>	3% reduction	12% reduction	***
Emissions		Unit reduction in emissions of 5% against standard value*3	3% reduction	8% reduction	***
Water		Unit reduction in water intake of 5% against standard value*3	3% reduction	13% reduction	***
Chemicals		Unit reduction in chemical emissions of 5% against standard value* <sup>3</sup>	3% reduction	11% increase	***
Green Procurement		Increase in green procurement rate*4		80% (FY2017: 76%)	$\star\star\star$
3 Expand the G	Green Heart Circle of Love for	r the Earth			
Carry out and expand environmental	Encourage employees to take part in environmental activities inside and outside work	Certify all production bases as Green Heart Factories*5		24 bases certified (6 in Japan, 18 overseas)	**
activities in collaboration with stakeholders	Promote environmental and social contribution activities	Carry out forest protection activities w Educate the younger generation abc	with NGOs and other groups but the environment	Reduce emissions by 7 million tons-CO <sub>2</sub> Provide free learning materials to 2,400 students	***

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

\*2 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.

\*5 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:  $+ \pm \pm \pm$ : Succeeded  $\star$   $\star$  : Will soon succeed  $\star$  : Doing all we can

 <sup>\*4</sup> Average for fiscal 2013-2015.
 \*4 The procurement value of suppliers that met the evaluation criteria as a percentage of the company's total procurement value.

(OJG)

Verified (OJG)

#### **Contribution to Greenhouse Gas Emission Reductions from Daikin Air Conditioners** on the Market

(Million tons-CO<sub>2</sub>)



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.

• Values up to fiscal 2014 are for emerging countries only

Reviewed by the third-party

#### **Greenhouse Gas Emissions** (Development and Production)



#### Emissions/ (OJG) per Unit of Production Japan

Overseas



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



Environmentally Conscious Products\* as Percentage (OJG) of Sales Volume (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 R-32, a refrigerant with lower global warming potential

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



#### Water Intake/ per Unit of Production

(OJG)

(OJG)

Japan Overseas ---- Overall water per unit of production with standard value set at 100



#### Green Procurement Rate\* by Region (%)

(OJG)

	2016	2017	2018
Japan	91	92	90
China	96	92	90
Thailand	95	97	97
Other countries in Asia and Oceania	58	84	80
Europe	93	95	95
North America	30	30	32
South America	97	94	100
All regions	74	76	80

\*Green procurement rate = Value of goods procured from suppliers who meet our assessment criteria Value of all goods procured

Companies covered by data: D Daikin Industries, Ltd. JG Including Group in Japan OG Companies Only **OJG** Including Group companies in Japan and overseas

#### **New Value Creation**





#### **Customer Satisfaction**





#### Improvement in Customer Satisfaction\*

	(Base year)	2016	2017	2018
Japan	(2015)	1.07	1.11	1.13
Singapore	(2015)	1.01	1.00	1.00
Indonesia	(2017)	_	1.00	1.03
India	(2016)	1.00	1.06	1.09
Spain	(2016)	1.00	1.21	1.15

\*Satisfaction of after-sales services, regarding the base year as 1.00

#### **Human Resources**



\*High-skilled engineers with knowledge and leadership.







\*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 2018. (As of end of September 2019) Calculated based on information from U.S. Bureau of Labor Statistics (November 2018).

#### **Overall CSR (Including SRI)**

#### Daikin Industries, Ltd.

Chosen for inclusion in the MSCI ESG Leaders Indexes



- Chosen for inclusion in the MSCI Japan ESG Select Leaders Index
- Chosen for inclusion in the MSCI Japan Empowering Women Index (WIN)
- Won Grand Prize (from among approx. 3,600 TSE-listed companies) in the Corporate Value Improvement Award for fiscal 2018 sponsored by the Tokyo Stock Exchange



LISTED

COMPANY

Daikin's Sustainability Report 2018 Received an award of excellence in the Environmental Communication Awards sponsored by the Ministry of the Environment and the Global Environmental Forum

#### Daikin Industries (Thailand) Ltd.

Won the Prime Minister's Outstanding Industry Award from Thailand's Ministry of Industry for continuous contribution to the country's economic growth

#### **Honors for Creating New Value**

#### Daikin Industries, Ltd.

Won Minister of MEXT Award in the 1st Japan Open Innovation Awards, sponsored by Japan's Cabinet Office, for an industry-university co-creation starting from the basic research stage



For the fifth consecutive year was selected a Derwent Top 100 Global Innovator, by Clarivate Analytics, for intellectual property activities



#### Human Resource Honors

#### Daikin Industries, Ltd.

- Granted Nadeshiko Brand designation for the sixth time, and the fifth consecutive year, by the Ministry of Economy, Trade and Industry
- Awarded the highest rating, 5 stars, in the 2nd NIKKEI Smart Work survey conducted by Nikkei Inc., which assesses companies based on the adoption of diverse, flexible work practices





#### **Environmental Honors**

#### Daikin Industries, Ltd.

- Won FY 2018 Energy Conservation Grand Prize
- Won the Director-General Prize of Agency for Natural Resources and Energy for realization of a system for upgrading medium-sized office buildings to zero-energy buildings (ZEB)
- Won the Chairman Prize of Energy Conservation Center for the "multi-cube" air-conditioners unit
- Won the Special Judges Selection Award for the Smart-Multi hybrid individual air conditioning system
- Shiga Plant received the highest rating, 3 stars, in the biodiversity award system sponsored by Shiga Prefecture

#### Daikin Compressor Industries, Ltd.

 Won the Prime Minister's Industry Award (energy efficiency category from Thailand's Ministry of Industry



#### **Honors for Customer Satisfaction**

#### Daikin Industries, Ltd.

The Urusara 7 residential air conditioner for the Japanese market won a Red dot award and a Good Design Award



#### Daikin Air-Conditioning Technology (China) Ltd.

Won an award as a model company for protecting consumers' rights, an honor for offering outstanding service, from the China Appliance Maintenance Association



#### 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

#### Daikin Malaysia Sdn. Bhd.

Won a Gold Class 1 Award from the Malaysian Society for Occupational Safety & Health







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

#### Data Covered by Verification

#### **Environmental Impact Data on Business Operations in FY2018**

- Scope 1 and Scope 2 greenhouse gas (GHG) emissions, water use, waste water, waste emissions, and chemical substances 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), 11 (use of sold products), and 12 (final product disposal) 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 2018.
- Contribution to CO<sub>2</sub> emission reductions through the use of air conditioners sold in industrialized countries and China in fiscal 2018.
- Contribution to greenhouse gas emission reductions through fiscal 2018 worldwide sales of air conditioners that use R-32 low global warming potential refrigerant.

INDEPENDENT ASSURANCE STATEMENT	SHO	Summary of work performe	d	
INDEPENDENT ASSUMINCE STATEMENT		As part of our independent ve	ritication, our work inclu	aded.
To; Daikin Industries, Ltd.		<ol> <li>Consuming the data co assumptions made at 3. Reviewing documental 4. Reviewing Darkin syste</li> </ol>	lection and consolidation of the data scope and n y evidence provided by the for guartitative data	or bases) in processes used to comple Selected Information Inducting assessing sporting bookdaries. Dator: aggregation and exaryos.
Bureau Verias Japan Co., Ltd. (Bureau Ventas) has been engaged by Dakin Industra assurance and to conduct an enternal review over sustainability information selected by applies to the related information included within the scope of vorvi described below.	es, Ltd. (Daikin) to provide lamiled Daikin, This Assurance Statement	5. Ventruition of sample o the following locations - Dakin Head Off - Dakin Industrie	d deta back to source b ce s Co., Lto, Kashima Pia	y carrying out nime physical site visits, severated on a nime based based at
Statistical Information The access of an examinance work was limited to exeminate row the following informat Statementality Report 2019 (Ma. Report) are recorded internetly to Dakin Circle perly for the p in a) The following data through March 31, 2019 (Me Selected Information) ) The following data through burstess exemitions of flow andicates have ad Dakin eight	sson included within Dalisin Group surpose of internet management for H production subactianes within	- Dakin Mator (S - Dakin Industrie - Dakin Device C - Dakin Industrie - Dakin Ansonda	Izhou) Co. Ltil 6 Czech Republic e / c zech Republic e / c a (Theliand) Ltd oning (Thalaerd) Ltd	
CO, emissions from aneityr use     (HFCs and PFCs emissions     Water make and Wastervater     Recyclad materials and Waster		<ol> <li>Reperforming a selection</li> <li>Company the Selecter acquisitions and disponential disponenti disponential disponential disponenti di disponential di dispo</li></ol>	on of aggrégation calcul d Information to the price sate	intons of the Selected Information. If year amounts taking into consideration changes in business activities.
<ul> <li>VOC emissions</li> <li>VOC emissions</li> <li>Release amount of PRTR (1) chemical substances througs business operations of four apply production substances within Japan (1) Politikant, Release and Transfer Register system;</li> <li>The following data Brought humans operations of four projection tensors of Databases</li> </ul>	production basies of Damin and	The procedures performed in reasonable assurance engage Consequently, the level of as would have been obtained ha	a limited assurance en emerit surance obtained in a lin d a reasonable assuran	gagement view in nature and bring from, and are leas in eatent than for, i miled assurance engagement is substantially lower than the assurance the rai engagement been performed.
CO, emissions from non-energy use     -CH, NO, SF, and NS, emissions     Categories 1.11 and 12 of Scope 3 GHG emissions eccounted in line with the GHG Pr     (Scope 3) Acounting and Reporting Standard	stood's Corporate Value Chain	Verified greenhouse gas en We performed our verifica (SO14054-3(2006) Verified data in gesenhouse g	illissions Bur work on grant as assertion made by D	ouse gas emissions data in accordance with the resultaments o takin are as follows.
The scope of our review work was limited to review about the following information	included within Dalkin Group		Greenrouse gas	
Bustainability Report 2019 (the 'Report) or reported internally to Darkin Group only for the p for the period Aren' 1, 2019 (the Recogn March 31, 2018 (the Selected Internation)), 11 The amount of contribution to CO <sub>2</sub> emission reduction through the sam of inverter air	surpose of internal management conditioners sold for enterging	Scope 1	[1-CO.4] 603.625	Boundary •COs trom energy use, HFCs and PFCs:
Outpress in FT2016 2) The amount of contribution to CO <sub>2</sub> emission reduction through the use of air condition and China in FT2018 3) The amount of contribution to GHG emission reduction through the change to day glob	ers sold for advanced countries	Scope 2 (location-based)	728,753	own emissions though counters operators or four production bases of Dakin, eight production subsidianes within Japan and 47 ownerses production subsidianes (CO- from non-energy use, CHL N-O, SF, and NF).
(R32) sharged into air conditioners add in FV2018		Scope 2 (market-based)	615,988	GHG envisions through business operations of four production
Reporting criteria The Selected Information included within the Report needs to be read and understood togethe line Report The Selected Information reported internality to Dakin Group only for the purpose of internal	er with the reporting orders stated en management people to be read and	Scope 3 (Category 1, 11 and 12)	330,383,125	Categories 11 and 12 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 Dekin for each category.
understood together with the internal reporting oriterial defined by Daikin Linetations and Exclusions		The breakdown of Scope Category 1: 2.982,874	3 emissions are as folio CO2e   Category 1	29/5. 1. 296,781,958 I-CO2e   Category 12: 30,626,253 I-CO2e
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Responsibilities This preparation, and presentation of the Selected Information in the Report are the sole in Darkin.	esponsibility of the management of	Statement of Independence Bureau Ventas is an integér	Antegrity and Compe dent professional service	tence oes company that specialises in quality, empromitmial, health, safety and
Banso Venta may of Invived in the drafting of the Report or the Report many Green Do- obtain Inited examines about where the Selected Internation has been presented in Ciffering by consisting our assumed-work. Selection of the Selection Selection Selection Selection Selection Selection - report our conduction on the Direction of Destin	responsibilities were to: accordance with the Reporting weak; anad; and	social sociaritability with over environmental, social, ethical Bureau Vertias operates a co- sociordingly movitaina a con pompliance with ethical requi Bureau Vertias has implimite Inspectionel Agencias (IFIA)	r 190 years history to and health and safety in rtified Quality Manager prehenaive system of ements, professional at ted and applies a Code arcross the business elibertution, under	esturance fram has internive experience in conducting verification over formation, system and processes. nand System which complex with the requirements of ISO 9001-2015, an apatry control including documented policies and procedures regarding andards and applicable legal and regulatory requirements. of Etriss, when means the requirements of the International Featments to ensure that its employment manane wrenging, expectivity, profession
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The Daikin website gives the calculation method for environmental performance data.

#### Editorial Policy of the Report

This report covers our basic philosophy for realizing sustainable growth of Daikin, fiscal 2018 achievements, and future plans. When we formulated Fusion 20 in fiscal 2015, 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 a website version. The printed version covers Daikin's strategies for a sustainable society, the four themes of CSR for value provision, and key information related to the five themes of fundamental CSR on which the four themes are founded.

Information shows results for the Daikin Group as a whole unless otherwise specified.

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

#### Sustainability Website

#### Investor Relations Website





https://www.daikin.com/csr/

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

#### **Reference Guidelines:**

This report was created with reference to the GRI Sustainability Reporting Standards 2016 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, waste water, waste emissions, and chemical substances emissions. (See page 29.)

#### **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 2018 (April 1, 2018, to March 31, 2019).

#### **Publication Date:**

September 2019 (English edition) The next publication (Japanese) is planned for July 2020. The next English edition is scheduled for publication in September 2020.

#### **Contact Information:**

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

#### Note

In reporting on fiscal 2018 CSR activities, data was carefully reviewed and was revised in cases where discrepancies occurred between actual fiscal 2018 results and information reported for fiscal 2017. 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 possibility that events occurring in the future may turn out differently from the forecasts, expectations, and plans stated in this report.

# 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. URD https://www.daikin.com/csr/

We welcome your thoughts and opinions on this report. **URD https://www.daikin.com/contact/report/csr/** 

Published September 2019



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).



UN Global Compact



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Certificated in Japan