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

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

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

Oil Hydraulics, Defense Systems, and Electronics
Proprietary Technologies at Work in a Range of Industries, IT Solutions

Net Sales (Consolidated)
(¥ billion)

<table>
<thead>
<tr>
<th>Year</th>
<th>Air Conditioning / Refrigeration Equipment</th>
<th>Chemicals</th>
<th>Oil Hydraulics, Defense Systems, and Electronics</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1,024.0</td>
<td>1,160.1</td>
<td>1,290.9</td>
</tr>
<tr>
<td>2010</td>
<td>1,218.7</td>
<td>1,290.9</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>1,787.7</td>
<td>1,915.0</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>2,043.7</td>
<td>2,044.0</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>2,044.0</td>
<td>2,290.6</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>2,481.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FY2018 consolidated sales by business segment
- Air Conditioning / Refrigeration Equipment: 89.6%
- Chemicals: 8.1%
- Oil Hydraulics, Defense Systems, and Electronics: 2.3%
GLOBAL NETWORK

Business Sphere: Daikin Is Active in Over 150 Countries

Employees
76,484

Subsidiaries
291

Japan
12,497

Employees
31

Daikin Industries and subsidiaries

China
19,194

Employees
33

Subsidiaries

Asia and Oceania
15,686

Employees
50

Subsidiaries

Europe
9,034

Employees
80

Subsidiaries

Other regions
3,387

Employees
43

Subsidiaries

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 triple 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
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 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.

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.

Masanori Togawa
President and CEO
Daikin Industries, Ltd.
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 Frameworks toward Solving Society’s Problems
- Sustainable Development Goals (SDGs)
- Kigali Amendment to the Montreal Protocol
- Paris Agreement

Our Group Philosophy
The basic management philosophy for the thoughts and actions of all employees

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.

Environmental Vision 2050
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)

Fusion 20 Strategic Management Plan
Details on page 13

CSR Action Plan 2020
The CSR Action Plan 2020 sets targets for 2020 regarding nine key CSR themes.

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
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

Value Creation for Cities
 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

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

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

Build resilient infrastructure, promote sustainable industrialization and foster innovation
- ZEB (net-zero energy buildings) initiatives, promotion of energy management and demand response, etc.

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.

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 Sustainable Development

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.

1 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.

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

<table>
<thead>
<tr>
<th>Value chain</th>
<th>Business impact, what Daikin to do</th>
<th>Efforts of significant materiality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement</td>
<td>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.</td>
<td>▪ Supply chain management ▪ Anti-corruption ▪ Free competition and fair business dealings</td>
</tr>
<tr>
<td>Development, Design</td>
<td>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.</td>
<td>▪ Effective use of resources and energy ▪ Measures against atmospheric pollution ▪ Management of chemical substances ▪ Waste and water-use reduction</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>It is crucial that Daikin increase productivity while at the same time improving manufacturing quality and reducing environmental impact at all worldwide production sites.</td>
<td>▪ Response to climate change ▪ Product quality and safety ▪ Customer satisfaction</td>
</tr>
<tr>
<td>Sales, Transportation, Installation</td>
<td>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.</td>
<td>▪ Response to climate change ▪ Measuring against atmospheric pollution</td>
</tr>
<tr>
<td>Usage</td>
<td>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.</td>
<td>▪ Customer satisfaction ▪ Information security</td>
</tr>
<tr>
<td>After-sales Service, Recovery, Recycling</td>
<td>To achieve a recycling-based society, it is crucial that we are thorough in recycling air conditioners and recovering/recycling refrigerants.</td>
<td>▪ Customer satisfaction ▪ Information security</td>
</tr>
<tr>
<td>Business Activity Foundation</td>
<td>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.</td>
<td>▪ Human resource development ▪ Workplace diversity ▪ Occupational safety and health</td>
</tr>
<tr>
<td>Relationship with Society</td>
<td>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.</td>
<td>▪ Labor-management relations ▪ Respect for human rights ▪ Corporate governance ▪ Stakeholder engagement</td>
</tr>
</tbody>
</table>
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.

Materiality analysis

<table>
<thead>
<tr>
<th>Environment</th>
<th>New value creation, Customer satisfaction, Human resources</th>
<th>Most important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biodiversity protection</td>
<td>Measures against atmospheric pollution</td>
<td>Response to climate change</td>
</tr>
<tr>
<td></td>
<td>Respect for human rights</td>
<td>Effective use of resources and energy</td>
</tr>
<tr>
<td></td>
<td>Stakeholder engagement</td>
<td>New value creation</td>
</tr>
<tr>
<td></td>
<td>Communities</td>
<td>Product quality and safety</td>
</tr>
<tr>
<td></td>
<td>Management of chemical substances</td>
<td>Customer satisfaction</td>
</tr>
</tbody>
</table>

Importance to Daikin

Daikin’s 9 Key CSR Themes

**CSR for Value Provision**
We provide healthy and comfortable air environments for people around the world while at the same time reducing environmental impact.

**Fundamental CSR**
We respond to society’s requests through corporate action based on transparency and sincerity.

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.
### Key CSR Themes

<table>
<thead>
<tr>
<th>Environment</th>
<th>New Value Creation</th>
<th>Customer Satisfaction</th>
<th>Human Resources</th>
<th>Fundamental CSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide Environmentally Conscious Products and Services Worldwide</td>
<td>Create New Value to Meet the Expectations of Customers and Society</td>
<td>Provide Customers with the Ultimate Satisfaction</td>
<td>Create a Work Environment Where Employees Can Use Their Talents to the Fullest through People-Centered Management</td>
<td>Corporate Governance</td>
</tr>
<tr>
<td>- Promote use of energy-efficient air conditioners, including inverter products</td>
<td>- Value Creation for the Earth</td>
<td>- Ensure safety and quality</td>
<td>- Develop human resources</td>
<td>- 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</td>
</tr>
<tr>
<td>- Promote use of air conditioners using refrigerants with lower global warming potential</td>
<td>- Value Creation for Cities</td>
<td>- Pursue customer satisfaction</td>
<td>- Promote human resources</td>
<td>- Degree of independence from the company, diversity, and transparency of the Board of Directors (Daikin Industries, Ltd. only)</td>
</tr>
<tr>
<td>- Promote use of heat-pump-type heating systems and hot water heaters</td>
<td>- Value Creation for People</td>
<td>- Promote workplace diversity</td>
<td>- Promote occupational safety and health</td>
<td></td>
</tr>
<tr>
<td>- Expand our environmental solutions business</td>
<td>- Use IoT and AI for open innovation that creates new value</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 2020 Target

- Achieve Green Heart Factory certification for all production bases
- Preserve 11 million hectares of forest at 7 worldwide locations
- Implement and expand environmental activities in collaboration with stakeholders

### CSR for Value Provision

- Expand the Green Heart Circle of Love for the Earth
- Encourage employees to take part in environmental activities inside and outside work
- Promote environmental and social contribution activities

### Environment

- Minimize Environmental Impact in Production Activities
  - Reduce greenhouse gases
  - Make effective use of water and other resources
  - Reduce chemicals
  - Promote green procurement

- Achieve Green Heart Factory certification for all production bases
- Reduce greenhouse gas emissions during development and production for entire Daikin Group
- 70% reduction over fiscal 2005 (reduced to 1.58 million tons-CO₂)

### New Value Creation

- Create New Value to Meet the Expectations of Customers and Society
  - Value Creation for the Earth
  - Value Creation for Cities
  - Value Creation for People

- Use IoT and AI for open innovation that creates new value

### Customer Satisfaction

- Provide Customers with the Ultimate Satisfaction
  - Ensure safety and quality
  - Pursue customer satisfaction

- Establish a high standard of quality
- Establish a service network covering the globe
- Grasp worldwide customer needs and pursue high customer satisfaction

### Human Resources

- 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

- The ratio of excellent or advanced skilled engineers in manufacturing: 1 in 4 employees
- 100 female managers (Daikin Industries, Ltd. only)
- Increase percentage of overseas bases where local nationals are presidents
- Frequency rate (shows frequency of occurrence of labor accidents): 0

### Fundamental CSR

- Minimize Environmental Impact in Production Activities
  - Achieve Green Heart Factory certification for all production bases
  - Reduce greenhouse gas emissions during development and production for entire Daikin Group
  - 70% reduction over fiscal 2005 (reduced to 1.58 million tons-CO₂)

### Communities

- Minimize Environmental Impact in Production Activities
  - Achieve Green Heart Factory certification for all production bases
  - Reduce greenhouse gas emissions during development and production for entire Daikin Group
  - 70% reduction over fiscal 2005 (reduced to 1.58 million tons-CO₂)
<table>
<thead>
<tr>
<th>Quantitative Index</th>
<th>Fiscal 2018 Achievements</th>
<th>Explanation of Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Through the adoption of environmentally conscious products, contribute to reducing greenhouse gas emissions</td>
<td>67 million tons-CO₂</td>
<td>We measured how much we contributed to reducing greenhouse gas emissions through the adoption of Daikin’s environmentally conscious products.</td>
</tr>
<tr>
<td>Environmentally conscious products as percentage of group sales (residential air conditioners)</td>
<td>93%</td>
<td>We measured how much we increased sales volume of air conditioners using inverter technology and refrigerants with lower global warming potential.</td>
</tr>
<tr>
<td>Reduction ratio of greenhouse gas emissions from development and production (over fiscal 2005)</td>
<td>75% reduction (reduced to 1.31 million tons-CO₂)</td>
<td>We measured how much we reduced greenhouse gas emissions generated in the product manufacturing and other processes.</td>
</tr>
<tr>
<td>Number of factories certified as Green Heart Factories</td>
<td>24 bases (Gold Rank: 2, Silver Rank: 10, Bronze Rank: 12)</td>
<td>We measured the increase in the number of production bases that achieved Daikin’s in-house standards for environmental action.</td>
</tr>
<tr>
<td>Contribution to CO₂ emission reductions through forest preservation</td>
<td>7 million tons-CO₂</td>
<td>We measured contribution to CO₂ emission reductions through forest preservation activities at 7 worldwide locations where we are working together with international NGOs and other groups.</td>
</tr>
<tr>
<td>R&amp;D expenditure</td>
<td>65.2 billion yen</td>
<td>We measured how much we invested in value creation and how many new technologies we came up with.</td>
</tr>
<tr>
<td>Number of patent applications</td>
<td>Japanese applications: 904 Overseas applications: 434 (FY2017) (Daikin Industries, Ltd. only)</td>
<td>We measured how many applications were filed and the success rate.</td>
</tr>
<tr>
<td>Progress rate of after-sales services, regarding the base year as 1.00</td>
<td>Japan: 1.13 Singapore: 1.00 Indonesia: 1.03 India: 1.09 Spain: 1.15</td>
<td>We measured how much we improved after-sales service customer satisfaction compared to the base year.</td>
</tr>
<tr>
<td>The ratio of excellent or advanced skilled engineers in manufacturing</td>
<td>1 in 2.9 employees (Daikin Industries, Ltd. only)</td>
<td>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.</td>
</tr>
<tr>
<td>Number of female managers</td>
<td>59 (Daikin Industries, Ltd. only)</td>
<td>We measured progress in training women to be managers in Japan.</td>
</tr>
<tr>
<td>Percentage of overseas bases where local nationals are president</td>
<td>46% (overseas bases)</td>
<td>We measured progress in appointing local nationals as presidents of overseas bases.</td>
</tr>
<tr>
<td>Frequency rate</td>
<td>1.38</td>
<td>We measured how well we succeeded in the safe operation of production bases.</td>
</tr>
<tr>
<td>Number of directors who are outside the company, women, and foreign nationals</td>
<td>3 outside directors, 1 female director, 2 foreign national directors (Daikin Industries, Ltd. only)</td>
<td>We measured the diversity of the make-up of directors.</td>
</tr>
<tr>
<td>Self-assessment implementation rate</td>
<td>99%</td>
<td>We measured how well we were in compliance through the implementation rate of self assessments.</td>
</tr>
<tr>
<td>Self-assessment implementation rate</td>
<td>99%</td>
<td>We measured how thorough we were in respect for human rights through the implementation rate of self assessments.</td>
</tr>
<tr>
<td>CSR procurement rate</td>
<td>94% (Daikin Industries, Ltd. only)</td>
<td>We measured the percentage of suppliers that achieved Daikin’s in-house standards.</td>
</tr>
<tr>
<td>Number of air conditioner forums held, number of outside participants</td>
<td>6 forums held in 5 worldwide regions; 114 participants from 37 countries; university professors, specialists, etc.</td>
<td>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.</td>
</tr>
<tr>
<td>Expenditure for social contribution activities</td>
<td>1.4 billion yen</td>
<td>We calculated the monetary amount, through donations, goods, and other ways, that we provided to communities.</td>
</tr>
</tbody>
</table>
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 Problems and Business Risks and Opportunities

<table>
<thead>
<tr>
<th>Environmental Problems</th>
<th>Business Risks and Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate change</td>
<td>Requests from society to reduce some of the vast amount of greenhouse gas emissions caused by using products</td>
</tr>
<tr>
<td></td>
<td>Stricter restrictions on existing refrigerants and gas-combustion heating</td>
</tr>
<tr>
<td>Increase in energy demand</td>
<td>Stronger energy restrictions and higher expectations for energy-efficient products</td>
</tr>
<tr>
<td></td>
<td>The electricity supply-demand balance will be disturbed, which will hinder the stable supply of electricity</td>
</tr>
<tr>
<td>Atmospheric pollution</td>
<td>Greater range of needs regarding air quality</td>
</tr>
</tbody>
</table>

Daikin’s Resources

- Technology
- Information
- People
- Global network
- Relationship with society

How Daikin Should Proceed

Fusion 20 Themes

<table>
<thead>
<tr>
<th>Climate change</th>
<th>Increase in energy demand</th>
<th>Atmospheric pollution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotion of energy efficiency through inverter and other technologies</td>
<td>Use of energy management to achieve optimal operation through a system that integrates air conditioners and their peripheral equipment, buildings, and renewable energy</td>
<td>Engineering of air environments that protect people’s health from air pollutants such as PM2.5 and VOCs</td>
</tr>
<tr>
<td>Adoption of R-32 and other refrigerants with lower global warming potential, development of next-generation refrigerants, adoption of heat-pump heaters</td>
<td>Recovery and recycling of refrigerants in use on the market</td>
<td>Pursuit of value added in air through, for example, office environments conducive to high productivity and home environments that improve the quality of sleep</td>
</tr>
<tr>
<td>Materials development, reduction of environmental impact throughout entire life cycle from material procurement to disposal and recycling</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

Daikin Environmental Vision 2050

We will provide safe, healthy air environments while striving to reduce greenhouse gas emissions to net zero.
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.

Through products | Through solutions | Through the power of air

Philosophy toward net zero greenhouse gas emissions

- More energy-efficient products
- Development and adoption of refrigerants with lower global warming potential
- Reduce environmental impact throughout the entire life cycle, including production

Use of energy management to carry out efficient operation of buildings with centralized systems for energy efficiency and renewable energy

- Provision of energy services throughout the value chain

- Use of energy management to carry out efficient operation of buildings with centralized systems for energy efficiency and renewable energy
- Provision of energy services throughout the value chain

Image: The power of air

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.
Environment (See pages 16–18)
Introduce state-of-the-art technologies to the market in order to address environmental and energy issues.

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 CO₂ 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.

**Forecast of CO₂ Emissions from Space Cooling in 2050**

*Note: Graph figures compiled by Daikin based on IEA* *The Future of Cooling*
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 APPROACH**

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

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**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 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.

**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.

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

**2018–**

Mexico/Brazil

Engagement with energy efficiency officials in Mexico
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.

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 panel discussion, 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.

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**

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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 CO₂ 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.
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

<table>
<thead>
<tr>
<th>Conventional air conditioning controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature, humidity, air flow and purification</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>New controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimulate the senses (light, aroma, sound, etc.)</td>
</tr>
<tr>
<td>Slightly cooler air flow</td>
</tr>
<tr>
<td>Changes in air quality</td>
</tr>
</tbody>
</table>

Changes in autonomic nerve balance = Changes in arousal level

- Activate sympathetic nerves
- Prevent drowsiness
- Increase concentration
- Relax
- Reduce fatigue

Sample applications: improve performance, etc.

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

Linking Sensing (NEC) and Control (Daikin/NEC)

- Arousal level estimation technology
- Quantify condition of drowsiness from camera images
- Control technology
- Propose air conditioning, lighting and aroma settings
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 eyelid 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 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**

- Temperature stimulus
- Light stimulus
- Aroma stimulus

* Room temperature setting: constant 27°C, lighting at 700lx, no aroma

Source: Atsushi Nishino et al., Approaches to Environmental Controls: Considering Human Factors

**Relationship between Arousal Level and Performance**

Yerkes-Dodson Law

Intellectual productivity is maintained with the right level of arousal

Maintain the appropriate condition using environmental controls

**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**

<table>
<thead>
<tr>
<th>City</th>
<th>Regional Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delhi</td>
<td>Heating and cooling needs due to seasonal temperature differences, compatible with frequent power outages</td>
</tr>
<tr>
<td>Jakarta</td>
<td>Smaller sized outdoor units compatible with urbanization</td>
</tr>
<tr>
<td>Singapore</td>
<td>Energy efficient air conditioners for buildings that can operate extended hours</td>
</tr>
<tr>
<td>Paris</td>
<td>Emphasis on quiet operation and interior design</td>
</tr>
<tr>
<td>New York</td>
<td>Durability for central air conditioning that is always on</td>
</tr>
</tbody>
</table>

**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 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.
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, malfunctions caused by damages resulting from off-road transportation were addressed by changing the product baseplate or packing materials. Also, to address pipe corrosion due to gas from domestic wastewater released into the rivers, the affected pipes were coated with special rust-proof material.

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 46ºC, which exceeds the limit of the base model, the R&D Center has developed ways to accommodate temperature up to 54ºC based on its own research studies. This technology is not only utilized in India but is also exported to the Middle East.

**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**

![Graph showing the demand for air conditioners in Vietnam from 2008 to 2018.](image)


**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**

![Employee count comparison table from 2008 to 2018.](image)

Source: Daikin Group Sustainability Report 2019
**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.

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**

Mr. Phongthorn Yoonutch
Daikin Industries (Thailand) Ltd.

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 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.
Overview of Environmental Impact of Business Activities

### Environment

**Data**

Other data can be found on our website.

**Plan**

- **3** 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.
- **2** The procurement value of suppliers that met the evaluation criteria as a percentage of the company’s total procurement value.
- **1** Average for fiscal 2013-2015.

**Overview of Environmental Impact of Business Activities**

**INPUT**

- **Procurement**
  - CO2 emissions from purchased materials - 2.98 million tons-CO2
- **Development, Design, Manufacturing**
  - CO2 emissions from development and production - 1.31 million tons-CO2
- **Sales, Transportation, Installation**
  - CO2 emissions from transportation and business trips - 0.042 million tons-CO2

**OUTPUT**

- **Emissions**
  - Recycled materials - 0.14 million tons
  - Waste - 0.036 million tons
  - Wastewater - 10.42 million tons
  - Chemical substances - 0.002 million tons
- **Recycled materials** - 2.98 million tons-CO2
- **Water intake** - 12.33 million m3
- **Energy consumption during product use**
  - Energy consumption of Daikin air conditioners on the market - 377 TWh
- **Fluorocarbon emissions during disposal of Daikin air conditioners** - 30.63 million tons-CO2

**Environmental Action Plan 2020**

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<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Provide Environmentally Conscious Products and Services Worldwide</td>
<td>Contribution to greenhouse gas emission reductions - 60 million tons-CO2</td>
<td>55 million tons-CO2</td>
<td>67 million tons-CO2</td>
<td>⭐⭐⭐</td>
</tr>
<tr>
<td></td>
<td>Increase in ratio of environmentally conscious products - 80% (FY2017: 76%)</td>
<td></td>
<td></td>
<td>⭐⭐⭐</td>
</tr>
<tr>
<td><strong>2</strong> Minimize Environmental Impact in Production Activities</td>
<td>Emission Reductions</td>
<td>70% reduction over fiscal 2005 (reduction to 1.58 million tons-CO2)</td>
<td>72% reduction</td>
<td>75% reduction (reduction to 1.31 million tons-CO2)</td>
</tr>
<tr>
<td></td>
<td>Reduction of Energy-Induced CO2 Emissions</td>
<td>Unit reduction in energy-induced CO2 emissions of 5% against standard value</td>
<td>3% reduction</td>
<td>12% reduction</td>
</tr>
<tr>
<td></td>
<td>Emissions</td>
<td>Unit reduction in emissions of 5% against standard value</td>
<td>3% reduction</td>
<td>8% reduction</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td>Unit reduction in water intake of 5% against standard value</td>
<td>3% reduction</td>
<td>13% reduction</td>
</tr>
<tr>
<td></td>
<td>Chemicals</td>
<td>Unit reduction in chemical emissions of 5% against standard value</td>
<td>3% reduction</td>
<td>11% increase</td>
</tr>
<tr>
<td></td>
<td>Green Procurement</td>
<td>Increase in green procurement rate</td>
<td>80% (FY2017: 76%)</td>
<td>⭐⭐⭐</td>
</tr>
<tr>
<td><strong>3</strong> Expand the Green Heart Circle of Love for the Earth</td>
<td>Carry out and expand environmental activities in collaboration with stakeholders</td>
<td>Certify all production bases as Green Heart Factories</td>
<td>24 bases certified (6 in Japan, 18 overseas)</td>
<td>⭐⭐</td>
</tr>
<tr>
<td></td>
<td>Promote environmental and social contribution activities</td>
<td>Carry out forest protection activities with NGOs and other groups</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1 Figures have been verified by a third party
*2 Figures for Daikin Industries, Ltd.
*3 Figures have been verified by a third party
*4 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

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25 Daikin Group Sustainability Report 2019
Companies covered by data: Daikin Industries, Ltd. Including Group in Japan Overseas Group companies only

**Overall water per unit of production**

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>28.0</td>
<td>34.8</td>
<td>45.0</td>
<td>54.0</td>
<td>67.0</td>
</tr>
</tbody>
</table>

**Overall emissions per unit of production**

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>120</td>
<td>190</td>
<td>250</td>
<td>310</td>
<td>390</td>
</tr>
</tbody>
</table>

**Overall energy-induced CO₂ emissions**

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>2,010</td>
<td>2,690</td>
<td>3,470</td>
<td>4,250</td>
<td>6,280</td>
</tr>
</tbody>
</table>

**Chemical emissions per unit of production**

<table>
<thead>
<tr>
<th>Region</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>91</td>
<td>92</td>
<td>90</td>
</tr>
<tr>
<td>China</td>
<td>96</td>
<td>92</td>
<td>90</td>
</tr>
<tr>
<td>Thailand</td>
<td>95</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>Europe</td>
<td>93</td>
<td>95</td>
<td>95</td>
</tr>
<tr>
<td>North America</td>
<td>30</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>South America</td>
<td>97</td>
<td>94</td>
<td>100</td>
</tr>
<tr>
<td>All regions</td>
<td>74</td>
<td>76</td>
<td>80</td>
</tr>
</tbody>
</table>

*Green procurement rate = \( \frac{\text{Value of goods procured from suppliers who meet our assessment criteria}}{\text{Value of all goods procured}} \)
New Value Creation

Research and Development Expenses

<table>
<thead>
<tr>
<th>Year</th>
<th>Japan applications</th>
<th>Overseas applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>344</td>
<td>1,136</td>
</tr>
<tr>
<td>2015</td>
<td>344</td>
<td>948</td>
</tr>
<tr>
<td>2016</td>
<td>329</td>
<td>787</td>
</tr>
<tr>
<td>2017</td>
<td>352</td>
<td>780</td>
</tr>
<tr>
<td>2018</td>
<td>434</td>
<td>904</td>
</tr>
</tbody>
</table>

Customer Satisfaction

Number of Inquiries to the Contact Center

<table>
<thead>
<tr>
<th>Year (FY)</th>
<th>Repair inquiries</th>
<th>Technical advice</th>
<th>Parts inquiries</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1,776</td>
<td>631</td>
<td>674</td>
<td>715</td>
</tr>
<tr>
<td>2015</td>
<td>1,770</td>
<td>639</td>
<td>674</td>
<td>736</td>
</tr>
<tr>
<td>2016</td>
<td>1,866</td>
<td>723</td>
<td>771</td>
<td>765</td>
</tr>
<tr>
<td>2017</td>
<td>1,874</td>
<td>672</td>
<td>796</td>
<td>799</td>
</tr>
<tr>
<td>2018</td>
<td>1,918</td>
<td>670</td>
<td>792</td>
<td>799</td>
</tr>
</tbody>
</table>

Improvement in Customer Satisfaction*

<table>
<thead>
<tr>
<th>Region</th>
<th>Base year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>2015</td>
<td>1.07</td>
<td>1.11</td>
<td>1.13</td>
</tr>
<tr>
<td>Singapore</td>
<td>2015</td>
<td>1.01</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2017</td>
<td>—</td>
<td>1.00</td>
<td>1.03</td>
</tr>
<tr>
<td>India</td>
<td>2016</td>
<td>1.00</td>
<td>1.06</td>
<td>1.09</td>
</tr>
<tr>
<td>Spain</td>
<td>2016</td>
<td>1.00</td>
<td>1.21</td>
<td>1.15</td>
</tr>
</tbody>
</table>

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

Human Resources

The Ratio of Excellent or Advanced Skilled Engineers* in Manufacturing

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 in 3.4 employees</td>
<td>28.0</td>
<td>29.3</td>
<td>34.7</td>
</tr>
</tbody>
</table>

Number and Percentage of Women in Management Positions

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of female managers</th>
<th>Females as percentage of all managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>44</td>
<td>2.0%</td>
</tr>
<tr>
<td>2017</td>
<td>49</td>
<td>2.4%</td>
</tr>
<tr>
<td>2018</td>
<td>59</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

Frequency Rate*1

<table>
<thead>
<tr>
<th>Year</th>
<th>Daikin Group (including overseas)</th>
<th>Japan (manufacturing industry average)</th>
<th>U.S. (average for all industries)*2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>1.68</td>
<td>1.58</td>
<td>1.33</td>
</tr>
<tr>
<td>2015</td>
<td>1.66</td>
<td>1.59</td>
<td>1.33</td>
</tr>
<tr>
<td>2016</td>
<td>1.66</td>
<td>1.59</td>
<td>1.33</td>
</tr>
<tr>
<td>2017</td>
<td>1.66</td>
<td>1.59</td>
<td>1.33</td>
</tr>
<tr>
<td>2018</td>
<td>1.68</td>
<td>1.58</td>
<td>1.33</td>
</tr>
</tbody>
</table>

*1 The calculation is based on information from the U.S. Bureau of Labor Statistics (November 2018).

*2 No data was released for the U.S. in fiscal 2018. (As of end of September 2019)
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
- 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

Daikin Compressor Industries, Ltd.

- 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

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

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

Daikin Industries, Ltd.

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

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

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

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

Overall CSR (Including SRI)

Environmental Honors

Honors for Creating New Value

Honors for Customer Satisfaction

Human Resource Honors
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 CO2 Emission Reduction through the Use of Products**
- Contribution to CO2 emission reduction through the use of inverter air conditioners sold in emerging countries in fiscal 2018.
- Contribution to CO2 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.

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.

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.

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.
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).

Inquiries

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PHONE: +81-6-6374-9304  FAX: +81-6-6374-9321

You can also view this report on our website.
URL https://www.daikin.com/csr/

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

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