

### Environmental report 2018 Daikin Europe N.V.



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### Message from Daikin management

Cooling, heating and refrigeration products have contributed to higher quality lifestyles and economic growth and are a key part of today's society. However, the resulting growth of electricity consumption and refrigerant emissions causes concerns due to the environmental impact, such as climate change.

As Daikin, we believe that a company cannot grow its business unless it contributes to solving environmental problems. We therefore work on spreading the use of environmentally conscious products that use energy efficient technology and refrigerants with lower global warming potential.

In fiscal year 2017, Daikin's global efforts to lower greenhouse gas emissions in residential air conditioners resulted in a reduction of 54 million tonnes CO<sub>2</sub> equivalent compared to a business-as-usual scenario. This is thanks to the use of energy efficient inverter technology and R-32, a refrigerant with

a lower global warming potential. In the spirit of the Paris Climate Agreement and the Sustainable Development Goals of the United Nations, Daikin announced a long-term environmental vision for 2050, aiming to achieve zero  $CO_2$  emissions by 2050.

Our goals can only be achieved thanks to the contribution of each Daikin employee in every Daikin region. In this report you will find examples of what was achieved in Europe, the Middle East and Africa by employees of Daikin Europe N.V. in the past year.

If you are interested in reading about the contributions of the Global Daikin Group, we recommend you visit the Daikin CSR website at: http://www.daikin.com/csr/index.html

We would like to thank all our employees who contributed to these remarkable results.

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

**Masatsugu Minaka** President Daikin Europe N.V.

**Frans Hoorelbeke** Chairman Daikin Europe N.V.

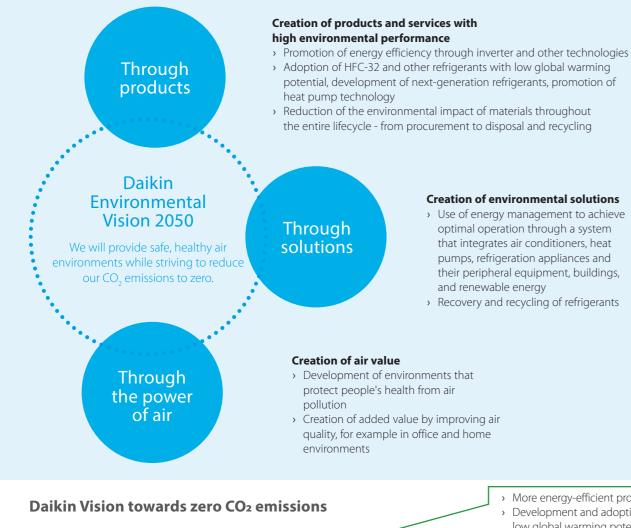


### Environmental vision 2050

Daikin has formulated an Environmental Vision 2050, the aim of which is to contribute to solving increasingly serious global environmental problems over the long term.

With the aim of reducing to zero Using the Internet of Things the CO<sub>2</sub> emissions caused by our business activities and our products and services, we set targets and implement measures that provide safe and healthy every five years under our Fusion strategic management plans.

(IoT), Artificial Intelligence (AI) and open solutions, we will meet the world's needs for air solutions environments, while at the same time contributing to solving global environmental problems.



We aim to reduce CO<sub>2</sub> emissions to zero by recovering and recycling refrigerants while at the same time creating products and solutions that minimise CO<sub>2</sub> emissions.



> Recovery and recycling of refrigerants and other actions

### Sustainable Development Goals as a guideline towards value creation

Daikin is contributing to

defined by the United Nations in 2015, that aim to contribute to global sustainable global warming and gender equality. The target goal set for the SDGs to be



and sustainable.

### Value creation for the Earth

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Daikin aims to reduce CO<sub>2</sub> emissions to zero by recovering and recycling refrigerants while at the same time creating products and solutions that minimise CO<sub>2</sub> emissions. Additionally, Daikin invests in forest protection and is contributing to many reforestation projects around the world.

#### Value creation for people

Daikin aims to contribute to people's health and comfort by applying innovative technologies to provide cooling, heating, humidity and overall better air quality.

In addition, by providing refrigeration solutions, Daikin seeks to contribute to the reduction of global food loss by providing solutions for an optimal food cold chain.



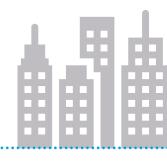






### Value creation for cities

Daikin aims to create value for cities by expanding our business focus from just equipment lifecycles to encompassing building and city lifecycles, and making buildings and entire cities more energy-efficient











### Assessing the impact of our business on society throughout the entire value chain

In all aspects of our business operations, we take initiatives to support our environmental policy and objectives. The following pages illustrate how each division and every employee of Daikin Europe N.V. contributes to the Daikin corporate philosophy to "be a company that leads in applying environmentally friendly practices."

#### •••• RESEARCH & DEVELOPMENT

#### **The Environment Research Center**

allows Daikin to stay ahead of evolving environmental legislation, standards and research topics. The team is engaged in collaborative stakeholder consultations with European and international policy makers and standardisation bodies. They also conduct research into cooling and heating solutions for the future Nearly Zero Energy Buildings (NZEB), as well as research on refrigeration solutions for a sustainable cold chain. More info on pages 8-11.

#### The European Development Center

continuously works to reduce the environmental impact of products for the European, Middle Eastern and African markets, for example by enhancing the energy efficiency of equipment and lowering the environmental impact of refrigerants. The center also plays a global role in the Daikin group as a Base Development Center to develop and test new heating technologies, such as heat pumps. More information on pages 8-11.

#### MANUFACTURING

It is crucial that Daikin increases productivity while at the same time improving manufacturing quality and reducing the environmental impact at all worldwide production sites. This is also true for the manufacturing site of Daikin Europe in Ostend, Belgium. Based on a new global Daikin assessment method, the Ostend factory was awarded a silver certification rank this year. More info on pages 12-13.

#### PROCUREMENT

Sustainable procurement is key to Daikin's purchasing strategy. Daikin actively encourages suppliers to share the responsibility of practising and promoting environmental sustainabilty at every stage. More information on page 14.

#### •••• SUPPLY & LOGISTICS

Daikin is working hard to minimise environmental impact at the logistics stage. One of Daikin Europe N.V's main challenges is to reduce its transport-related CO<sub>2</sub> emissions. More information on page 15.

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#### **SALES**

Daikin sales organisations are contributing to the improvement of the environment by supporting clients to select sustainable cooling, heating or refrigeration solutions. An example is the support to consultants and architects for achieving sustainable building scores, such as BREEAM. In addition, sales organisations support various local projects with employees and clients. More information on pages 16-21.

#### AFTER-SALES SERVICE, RECOVERY & REUSE

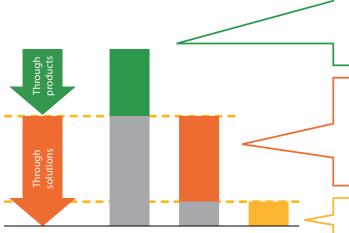
cooling, heating or refrigeration cts not only cause quality problems ay also lead to environmental problems s refrigerant leakage. After-sales e is essential to optimise the lifecycle mance of a product. Also thorough ng of equipment and refrigerants is to reducing the environmental impact. nformation on pages 22-23.



### Research & development

The Environmental Vision 2050 aims to reduce CO<sub>2</sub> emissions to zero by means of three focus fields: more efficient products, provision of solutions for efficient operation of buildings, and the recovery and recycling of refrigerants.

On this page, you can find various examples of how the European Development Center and the Environment Research Center are contributing to these targets.



- > More energy-efficient products
- > Development and adoption of refrigerants with low global warming potential
- Promotion of heat pump technology
- > Use of energy management to carry out efficient operation of buildings with centralised systems for energy efficiency and renewable energy Provision of energy services throughout
- the value chain
- Recovery and recycling of refrigerants and other actions

#### Contribution to Environmental Vision 2050 through products

#### The European Development Center

develops cooling, heating and refrigeration During the development stage, the environmental impact of products,

as well as selecting refrigerants with a lower





### Contribution to Environmental Vision 2050 through solutions

#### The Environment Research Center is

conducting research into sustainable cooling and of the system to ensure a stable supply heating solutions for the future NZEB concepts. of renewable energy will be evaluated. One of the projects they are contributing to is situated in Lisbon, Portugal where an Automated Based on the project results, Daikin hopes Demand Response (ADR) demonstration system to utilise ADR technology in conjunction was set up in cooperation with NEDO\* and with air conditioning systems in Portugal Daikin Industries Ltd. and other EU countries.

The system, under development since November 2016, began operating in July 2018. The project aims to establish business models for electric power retailers to maximise renewable energy usage during peak demand hours throughout the summer season using



Contribution to Environmental Vision 2050 through recovery and recycling of refrigerants

In addition to refrigerant selection, the way in which a refrigerant is managed throughout its lifecycle, including recovery and reclamation, is also very important.

ADR technology. Consequently, the effectiveness

\*NEDO = New Energy and Industrial Technology Development



#### From left to right:

Rui Fonseca and Nobuki Matsui from Daikin Technology & Innovation Center (TIC), Frans Hoorelbeke (Chairman Daikin Europe), Shuji Furui (TIC, NEDO project leader), Jorge Carvalho (Daikin Portugal) and Martin Dieryckx (Daikin Europe, Environment Research Center) during the opening ceremony of the Liscool project in June

Daikin believes a comprehensive approach is required, where leakage prevention, recovery and reclamation of refrigerants play a key part in the overall objective of reducing the CO<sub>2</sub> emissions to zero.

More information about the recovery of

refrigerants can be found on page 11.

### Daikin refrigerant policy

#### Daikin believes in diversity of refrigerant choice

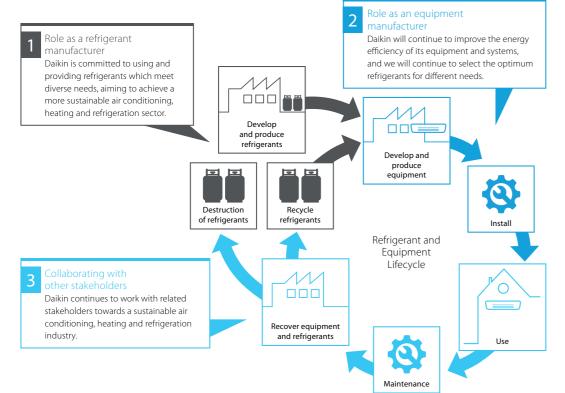
A refrigerant is a heat transfer medium used in air conditioning, heat pump and refrigeration equipment. Many criteria need to be assessed to select a suitable refrigerant, such as the GWP value, safety, energy efficiency, affordability,

resource efficiency, recoverability and recyclability. There is no refrigerant capable of meeting the needs of every kind of application, which is why Daikin applies a wide diversity of refrigerant types.

What is GWP? Global Warming Potential (GWP) is a number which expresses the potential impact that a particular refrigerant would have on global warming if it were released into the atmosphere. It is a relative value which compares the impact of 1kg of refrigerant to 1kg of CO<sub>2</sub> over a period of 100 years. Although this impact can be avoided by preventing leaks and ensuring proper end-of-life recovery, choosing a refrigerant with a lower GWP value and minimising the amount of refrigerant will reduce the risk to the environment if a leak were to occur accidentally. The amount of refrigerant used, multiplied by the GWP value is expressed as "CO<sub>2</sub> equivalent consumption".

However, GWP is not the only parameter to assess the potential global warming impact of equipment. For example, selecting a refrigerant with a lower GWP, but which uses more energy would not be a good choice, as it would be counterproductive for the total product's global warming impact. This is why Daikin applies a comprehensive approach to achieve a sustainable refrigerant and equipment lifecyle.

#### Daikin actions on refrigerant and goals



### Daikin's comprehensive approach to phase down the consumption of HFC refrigerants

Daikin applies a wide diversity of refrigerants, which includes HFCs, as well as non-HFC type refrigerants. Daikin welcomes both the European F-gas regulation and the global Montreal Protocol–Kigali amendment, which aim to phase-down the CO<sub>2</sub> equivalent consumption of HFC refrigerants.

Comprehensive approaches towards CO<sub>2</sub> equivalent consumption phase-down

The right refrige

right application There is no ideal "

size-fits-all" refrige

all applications. In

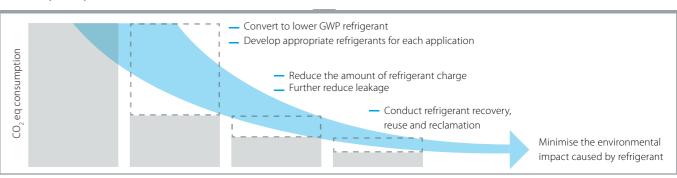
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#### Example of conversion to lower GWP refrigerants in the Daikin Europe product portfolio

		Today	Future launches
t for the	Air conditioners and heat pumps	R-410A → R-32 Full range of R-32 for Split, Sky Air and Daikin Altherma systems	
t for ure	VRV, chillers and air side equipment	R-410A, R-32, R-134a, R-1234ze(E), Ammonia	Under investigation: blends, R-32, other HFO
ity es,	Refrigeration	R-404A, R-410A, R-134a, R-448a, R-449a, CO <sub>2</sub> , Ammonia, HC: R-290, R-600a	Under investigation: R-407H, R-32, HFO
Ś,	Marine containers	R-134a	Under investigation: R-32, HFO, R-513
FC a role	AC and refrigeration for vessels	R-404A → R-407C , R-407H	Under investigation: Lower GWP
a.o.c	Truck and trailer refrigeration	R-404A	Under investigation: R-452A, Lower GWP

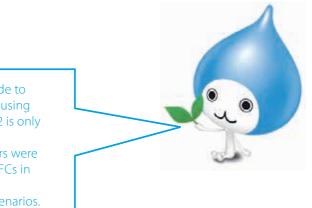
Did you know that Daikin was the first company worldwide to introduce air conditioners, heat pumps and scroll chillers using R-32 refrigerant instead of R-410A? The GWP value of R-32 is only one third of the GWP of R-410A.

If all R-410A refrigerant currently used by all manufacturers were replaced by R-32, the total CO<sub>2</sub> equivalent emissions of HFCs in 2030 could be reduced by up to 800 million

tonnes-CO<sub>2</sub> equivalent compared to business-as-usual scenarios.

Interested in reading more about our refrigerant policy? Please visit our website: https://www.daikin.com/csr/information/influence/

Daikin has already launched many products which support the reduction of HFC consumption and will continue to conduct further research and take action to achieve the HFC phase-down targets.



# Manufacturing

### The graphs below show the targets and results of the Daikin Europe factory in Belgium

The performance of Daikin factories is assessed based on an in-house standard, the Green Heart Factory standard. This method helps to evaluate both social contributions and environmental efforts, such as the reduction of water use, energy, fluorocarbons, waste and VOC emissions. Factories with a high score, among which is the Daikin Europe N.V. factory in Ostend, are certified as Green Heart Factories. In 2017, the Green Heart Factory standard was revised to raise the quality of environmental activities and four certification ranks were established. The Daikin Europe N.V. Ostend factory received a silver certification rank this year.

The targets for the period 2016-2020 are based on the average result of 2013-2015 and aim to improve by 1% each year. For HFC emissions, the aim is to remain below 0,2%.



#### Energy use

The CO<sub>2</sub> emissions are caused by the use of gas for process heating, heating of test rooms, factory buildings, ovens and other equipment.

These emissions reduced in 2017 thanks to additional efforts. Due to optimised heating operation, new technologies in the test facilities and the reduction of running hours of equipment by smart control, the result in 2017 is well below target.

In addition, Daikin Europe has participated in the Flemish Energy Policy Agreement since 2015. This is a voluntary agreement which ensures that Flemish energy intensive companies stay or become leading companies in energy efficiency. Daikin Europe has decided to extend its engagement from 2020 to 2022.

Footnote: result based on the following sub-KPIs: process heat, heating factory buildings, test rooms, ovens, others.

#### HFC emissions

Shown on the graph are the emissions of HFC refrigerants caused during refrigerant unloading and charging of air conditioning and heat pump equipment. Thanks to continuous efforts, these emissions remain well below the target of 0.2%. Energy related CO<sub>2</sub> emissions



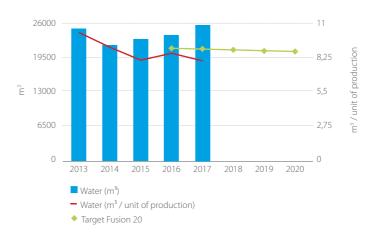
Hydrofluorocarbon emissions



Did you know that between 2005 and 2017 Daikin global net sales tripled, while the greenhouse gas emissions of Daikin factories worldwide were reduced by 74% ?

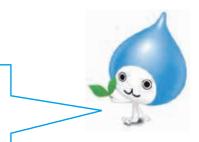


Water consumption



VOC emissions - Production





#### Waste discharge

Even though continuous efforts are made by Daikin Europe N.V. to reduce waste, our waste reduction target was not reached in 2017. This is mainly due to the increase of wood and cardboard (packing material from parts). This is due to insourcing of assembly activities that were previously done elsewhere as well as the introduction of a 'one-touch' factory.

A 'one-touch' factory refers to the objective of creating added value with every step throughout the supply chain. This means a decision has been taken to stop re-packaging of components before they arrive at Daikin factory. This reduced the amount of packaging used for components but shifted some of the packaging waste from the suppliers to the factory.

Footnote: Result based on the following sub-KPIs: metals, wood, others.

#### Water consumption

The water consumption, mainly resulting from the sanitary facilities, test rooms and production remained below target in 2017. This is due to the renovation of our sanitary facilities and new technologies in our test facilities, which do not require water consumption anymore.

Footnote: Result based on the following sub-KPI's: sanitary facilities, test rooms, production.

#### Volatile organic compounds (VOC) emissions

The VOC emissions up to 2015 were mainly linked to the use of evaporating oil in the production process of indoor heat exchangers. Since 2016, these heat exchangers are no longer produced at Daikin Ostend factory, which explains the sudden drop of VOC emissions. Currently, the only VOC emissions left stem from the bending of pipes, in which certain evaporating oils are used.

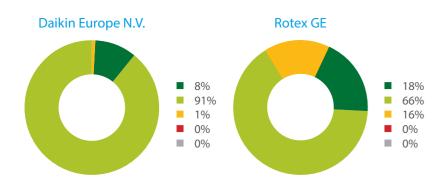


Sustainable procurement is key to Daikin's purchasing strategy. Daikin actively encourages suppliers to share the responsibility of practising and promoting environmental sustainability at every stage.

Green procurement guidelines require suppliers to:

- > Actively work towards achieving ISO14001 certification
- > Comply with all current EU environmental legislation and regulations
- > Have no record of violations of environmental law within the past two years
- > Practice environmentally sound chemical substance management
- > Avoid using certain chemical substances (including cadmium, lead, asbestos,...)
- > Follow ecological packaging and design guidelines

Annual assessment of green procurement at Daikin Europe N.V. shows that 84% of core suppliers to ROTEX and 99% of core suppliers to Daikin Europe factory received a status good/excellent.



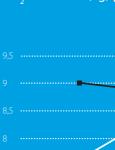
- Excellent
- Current status good but under continuous review
- Collaboration will continue, but improvements are needed
- No new projects awarded
- Further collaboration not possible

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# Supply & Logistics

Daikin is working hard to minimise environmental impact at the logistics stage. One of Daikin Europe N.V.'s main challenges is to reduce its transport related CO<sub>2</sub> emissions, and thus achieve considerable CO<sub>2</sub> savings.

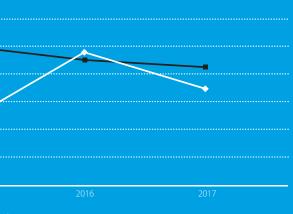




associated with logistics.

- kilometers decreased with 20%.

#### $CO_2$ emissions (kg) per sales volume (m<sup>3</sup>)



More sales compared with the number of driven kilometers: the sales

**Stock decrease**: after a period of significant stock increase during 2016 to less volume was shipped from the factories to the warehouses.

**Decrease of double transfers**: Daikin aims to have only one warehouse between the factory and the customer. Any deviations from this principle is

Daikin contribution to sustainable cities

Daikin aims to create value for cities by expanding our business focus from just equipment lifecycles to encompassing building and city lifecycles and making buildings and entire cities more energy efficient and sustainable. These are a few examples of projects in Europe where Daikin cooling, heating and refrigeration solutions contribute to sustainable buildings and cities.

#### **Retail application in the UK**

The Range is a retail store recognised for its products including DIY, homewares, furniture, lighting and so on. In collaboration with Daikin UK, they decided to incorporate a fully integrated renewable system that would provide heating, hot water and air conditioning, thus allowing the Range to have a fully controllable system with operation flexibility according to the requirements. Both VRVIII Heat Recovery and VRV IV heat pumps are introduced and allow for a fully integrated approach.

### BREEAM®

#### **Daikin Netherlands contributes** to BREEAM project

Daikin Netherlands contributed to a BREEAM project as expert in the design of a new logistics center for Van Reenen transport in Barneveld, Netherlands. The different areas of the logistics center are equipped with Daikin technologies (VRV IV, Sky Air). The aim is to achieve the 'Excellence' label. Daikin Netherlands provided feedback in terms of technologies and practical implementation.



Did you know that there is a sustainability assesment method for buildings called BREEAM? It provides sustainability scores based on a number of different criteria. Daikin has over 20 BREEAM Accredited Professionals (AP) across Europe. helping customers all the way -from the design phase to commissioning -to achieve their BREEAM certificate. You can find some examples of BREEAM projects on this page.

#### Daikin Europe joins the Decarb Heat Initiative

The heating and cooling industry is conscious of its responsibilities and is willing to take a leading role in the industry's transition by making the following pledge. While aiming at reducing EU's energy needs and striving for a costefficient path, the industry – including Daikin Europe NVis willing to take specific commitments to turn the Decarb Heat vision into reality. It is committed i.a. to support the goal of a 100% carbon emission free heating and cooling sector by 2050 (80% by 2040) and align its business development plans with this goal.

The Decarb Heat Industry pledge was formally signed by representatives of the thermal industry at the #DecarbHeat Conference in Brussels on the 11th of May 2017.



BREEAM® Fxcellent

**Energy efficient office solution** in Romania: **Crystal tower** 

The Crystal Tower, an office building in Romania, demonstrates how energy efficiency can be achieved, even in difficult urban sites. High quality design and the use of new technologies have transformed the Crystal Tower into a more sustainable and energy efficient building.

This is due to the installation of a water loop for VRV water cooled modules as well as boilers and cooling towers. The Crystal Tower received an Excellent score in BREEAM certification.

#### Eco-friendly office building in Malmö's historic harbour area

Dragörkajen, an eco-friendly office based in the historic harbour area of Malmö, has been equipped with a highly efficient and innovative climate control system supplied by Daikin Sweden. The system, making use of VRV and VAM units as well as high temperature hydroboxes, will use heat recovery to transfer excess heat from the warmer southern side of the building to the cooler northern side. This will maintain an even temperature across the building, saving energy.

### BREEAM® Very good

#### **BREEAM certified business park** in Poland

The Quattro Business Park in Poland is an office complex designed to provide a comfortable environment to future tenants. A VRV system with Intelligent Touch Manager was installed to allow for accurate energy consumption management. The building has received a BREEAM Very Good score.



and industrial production.

www.2gradwirtschaft.de.

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#### First Altherma 3 with R-32 in Germany

In 2017, for the construction of their new home, the Büthe family wanted to create a comfortable environment in a more energy-efficient and environment friendly way. This was done by the instalment of two Daikin systems: a Daikin Altherma 3 air-to-water heat pump and a multi-split air conditioner, both equipped with the refrigerant R-32. Due to the high energy efficiency of the systems (A+++) and the lower Global Warming Potential (GWP) of R-32, the wish of the family to reduce the environmental impact was realized.

The Daikin Altherma 3 heat pump is the first air-to-water heat pump on the European market with R-32. Its Bluevolution technology makes it a highly efficient solution for new buildings and low-energy-houses. Thanks to this overarching and integrated climate concept, the Büthe family saves in total around 4800 kWh primary energy in comparison to fossil reference techniques.



#### **Daikin Germany joins project** 'Pathway to a <2° Economy'

The joint project of Stiftung 2° and WWF was established in the summer of 2017 and ran until November 2018. The overall aim of the project is to show that a decarbonised economy is within reach. As the private sector plays a decisive role in reaching a <2° economy, collaborative activities beyond corporate boundaries are essential to achieve this long-term goal. The project brings together companies of three sectors: buildings, transportation,

Daikin Germany is sponsoring the cluster 'buildings' in order to help promote decarbonisation in the building sector and raise awareness on the different solutions already available. A complete list of participating companies and descriptions of the eight project ideas can be found at:

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### Daikin contribution to reforestation projects

#### Daikin Portugal contributes to the reforestation of the Leiria pine forest

Due to heavy forest fires in October 2017, the famous Leiria pine forest, lost almost 86% of its surface. Reforestation of the complete area will require the plantation of approximately 20 million trees. On the 24th of March 2018, Daikin Portugal clients and employees came together to help progress the recovery of the pine forest and ultimately have it restored to its original state. Approximately 2000 trees were planted that day.

#### Daikin Europe N.V. employees plant trees in Belgium

On March 4th 2018, the DO-team of Daikin Europe N.V. organised a tree planting activity in Ostend, Belgium. All employees and their families were invited to join in adding green to the city of Ostend. With an enthusiastic team of 40 people, approximately 4000 trees were planted that day.



#### **Biodiversity projects** in Malawi and Cameroon

Zanotti is supporting various tree-planting projects in Malawi and Cameroon, in partnership with Treedom. Treedom is an online platform where companies and individuals can invest in the planting of trees and follow the progress of these trees online. Zanotti has contributed to the planting of 1007 trees so far.



Did you know that Daikin projects all over the world called the 'Forests for the Air' projects? For more info, please have a look at https://www.daikin.com/ csr/forests/'

#### **Biodiversity project in Liberia**

As part of the 'Forests for the Air' project, Daikin also supports a project at the East Nimba Nature reserve in Liberia. The project promotes coexistence with wildlife, provides education on sanitary methods, while at the same time eliminating actions such as poaching and shifting cultivation.

#### **Daikin Central Europe commits** to the planting of 2000 trees

Daikin Central Europe's two-day International Partner Conference in Alpbach, Austria was the ideal opportunity to bring people together and support reforestation. Participants were invited for a walk with Daikin Central Europe, which pledged to plant a tree for each km walked by each person. They committed to planting 2020 trees.

#### Daikin Romania supports national reforestation campaign

Last summer, Daikin Romania launched the 'Plant a tree' campaign. Held between June and September 2017, the campaign involved planting a tree for the sale of each residential air-conditioning unit. The campaign aimed at planting 10000 trees, but ultimately, an impressive number of 13000 trees was planted by Daikin Romania's employees, dealers, customers and other volunteers.

### Activities at Daikin offices

### Kestrel nest -Daikin Europe

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For the second year in a row, a pair of falcon kestrels was spotted on Daikin Europe N.V. Östend site. In 2016, two nesting boxes were installed to encourage their breeding. This year, Daikin Europe welcomed the expansion of the kestrel family with a couple of young kestrels.







### Days without meat -Daikin Europe

Daikin Europe N.V. continued the yearly 'days without meat' challenge, a campaign organised to raise awareness about the impact of our meat consumption on the environment. Even though the official campaign ended last year, Daikin Europe N.V. continued the challenge and provided the possibility of having a vegetarian dish each day throughout the entire month of March.



#### Earth Hour

Earth Hour, a movement initiated by WWF, brings together millions of people across the world to call for greater action on climate change. Each year, hundreds of millions of people around the world switch off their lights to show they care about the future of our planet. Both at Daikin Europe N.V. Ostend site and at the Daikin Turkey offices, lights are switched off each year to draw attention to climate change.





### Beehives on the roof - Daikin France

Daikin France was very aware of the declining bee population and wanted to actively take part in the reintroduction of bees in urban areas. The pollinating insects play a key role in maintaining the balance of our ecosystem and therefore, Daikin France decided to welcome two beehives with more than 30 000 bees to the roof of its headquarters in mid-April. They will produce 20kg of honey per year.

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#### Clean air agents – Daikin Turkey

Daikin Turkey continues to raise awareness among children on the importance of clean air as part of their 'Clean Air Agents' project. Another event took place at an elementary school close to the production facilities of Daikin. After watching an educational video and a play staged by actors, underlining the importance of a clean environment, the kids received 'Clean Air Agents' t-shirts and medals. Consequently, they took their first steps in becoming a responsible citizen. 

## After-sales service, recovery & reuse

The EU's 2030 climate and energy framework sets challenging targets for 2030, aiming for a drastic reduction in greenhouse gas emissions, an increased share of renewable energy and a significant improvement in energy efficiency. The ongoing transition from conventional heating technologies towards the use of heat pump heaters is supporting these objectives.

That being said, heat pumps still only account for a relatively small percentage of the European heating market and there is still little awareness in general about heat pumps and their advantages. Therefore, Daikin developed a cloud-based platform, called Stand By Me, that connects the three parties of customers, dealers and Daikin.

On the one hand, it aims to bring customers peace of mind about the products and provides them with the necessary after-sales service, such as an extended warranty period, a register for equipment information and the possibility of a maintenance contract on the SBM portal site.

On the other hand, the platform will support dealers in selecting the appropriate products for different regions and climates. To mitigate the concern whether heat pumps can warm a house in very cold climates, Daikin developed a tool called the Heat Solution Navigator, which allows dealers to select heating products for customers that will meet their heating needs.



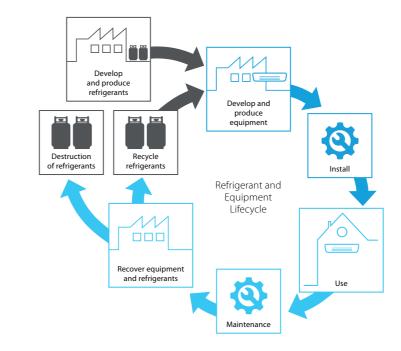
### Daikin invests in a circular economy of refrigerants

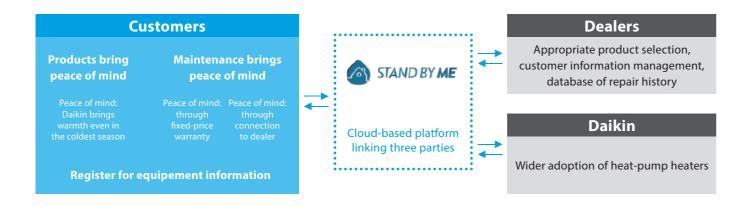
Daikin is committed to take action towards a more sustainable air conditioning, heating and refrigeration industry by investing in the recovery and reuse of refrigerants. This will support the long term availability of HFCs for installation and maintenance of HVACR systems. On the 14th of March 2018, Daikin's refrigerant policy was presented during a press release event at the Mostra Convegno exhibition in Milan.

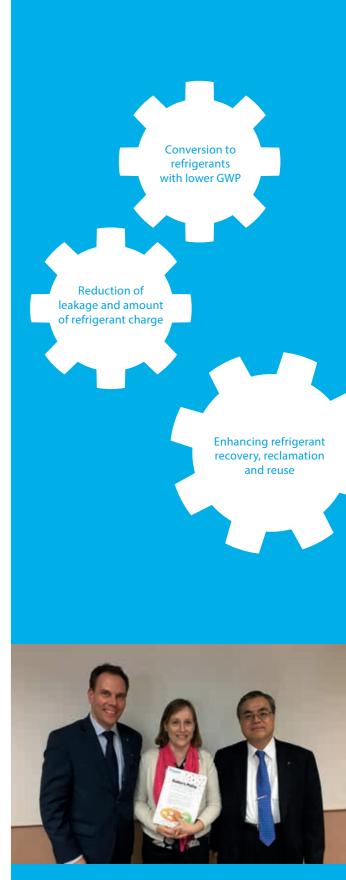
The HFC phase down step in 2018, laid down in the EU F gas regulation, requires a reduction of CO<sub>2</sub> equivalent consumption to 63% of the baseline period, and a reduction to 21% is needed from 2030 onwards. A combination of actions can contribute to achieving these targets: conversion to refrigerants with lower GWP, reduction of leakages and the amount of refrigerant charge as well as enhancing refrigerant recovery, reclamation and reuse.

Daikin commits to take actions on all these aspects. Because we have an important role to play as an equipment manufacturer and refrigerant producer, we are not only dedicated to improve the sustainability of the Daikin business, but also to ensure a sustainable industry in general.

Daikin believes that recovery and reuse of refrigerants will support the long term availability of HFCs for installation and maintenance of HVACR systems. Based on the experience of Daikin in Japan, Daikin Europe N.V. has decided to invest in recovery and reclaim of refrigerants. As a first step, Daikin will reclaim refrigerants which were recovered through its existing routes. In a next step, Daikin will extend these routes in Europe in collaboration schemes with other stakeholders.







Ansgar Thiemann, Hilde Dhont and Toshitaka Tsubouchi during the press release at Mostra Convegno

### Daikin Europe N.V. ISO 14001 environmental policy and objectives

#### Environmental policy based on the following fundamental principles

- 1. Taking into account the total product life cycle, we will design our products and processes to minimise the use of energy and resources. This includes recycling where possible, and limiting packaging waste.
- 2. Measures will be taken to efficiently manage refrigerant and to stimulate the design and manufacture of refrigerant-based products with a reduced environmental impact.
- 3. The necessary information and training will be given to employees in order to continually realise these policy objectives.
- 4. Our environmental management initiatives will be communicated in such a way that all levels of the organisation are well informed concerning its objectives and application.
- 5. These environmental management initiatives will be periodically evaluated via checks and audits in order to continuously improve our environmental performance.
- 6. All Daikin products, processes and services will meet at least the applicable legislation.



#### Environmental objectives

#### Use energy sustainably

Daikin Europe N.V. is constantly seeking ways to reduce the energy consumption of its production facilities and to make use of sustainable energy sources.

#### Reduce environmental impact from refrigerants and improve the energy efficiency of our products

Daikin Europe N.V. is committed to reducing the greenhouse gas emissions of its products by reducing the impact of refrigerants and improving energy efficiency.

#### Increase product recycling and waste reduction

Daikin takes recyclability into account in the product development phase making use of the principles of Lansink's ladder \*. This concern for recycling and waste reduction continues through all phases of the product (production, transport and logistics, installation, maintenance, etc.), up to and including responsibly dealing with the product at the end of its useable life.

#### Manage chemical substances and preparations

Daikin Europe N.V. strives for optimum safety with respect to the handling and storage of chemicals. This includes the search for newer and safer products to replace existing technologies.

#### Develop products with reduced environmental impact

Daikin is committed to complying with all environmental legislation. In addition, its green procurement guidelines further ensure that its products are state of the art with respect to reduced environmental impact.

#### Continue efforts at European level

Daikin Europe N.V. continually adapts its environmental policy to the changing global, European and local legislative frameworks. It stimulates and promotes the strict application of all relevant legislation and formulates recommendations to facilitate implementation.

#### Be a model of environmental responsibility

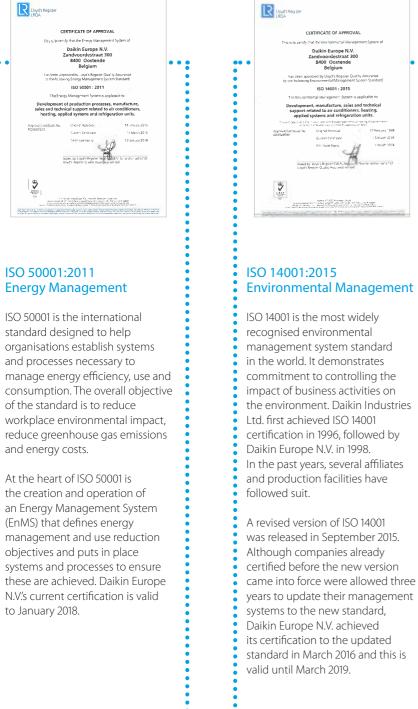
Daikin intends to be a model company by providing training and information on the environmental impact of its activities. It supports and communicates with external organisations, its neighbours and the community at large, and is represented in working groups within the relevant industries.

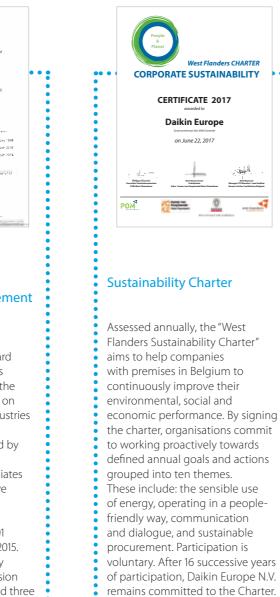
<sup>\*</sup> Lansink's ladder: principles or methods of waste management established by a Dutch Member of Parliament - Ad Lansink represented by a ladder with a number of rungs. The rungs represent a hierarchy of increasingly better ways to deal with waste in an environmentally responsible manner

### Certificates

Daikin Europe N.V. is recognised as a well-managed business that is committed to protecting the environment.

ISO Standards, the Sustainability Charter and the Responsible Sourcing Standard are evidence of this ongoing commitment.





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#### Daikin Middle East & Africa receive CSR Label award

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### Awards



Majid Saif Al Ghurair (Chairman of the Dubai Chamber of Commerce) and Yuji Miyata (Daikin Middle East) during the award ceremony

#### Daikin UK receives various prestigious awards

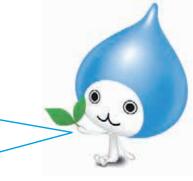
They received no less than four different awards for the Sky Air A-series, Heat Pump Awards and the H&V News Awards.



Left to right: Andy Shields - Head of Sales Emap Building Services, Mark Dyer - Commercial Director Daikin UK, Richard Green - Applications & Quotations team leader, Lee Nicholls - Branch Manager Daikin UK, Hal Cruttenden -



Interested to know more about Daikin global sustainability initiatives? Please visit our website: https://www.daikin.com/csr/report/index.html



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