

Annual Magazine  
2013



MORE THAN  
**12,000**  
EMPLOYEES WORLDWIDE

NET SALES OF €  
**2.38**  
BILLION IN 2013

EBIT OF €  
**222**  
MILLION IN 2013

BRANCH OFFICES IN OVER  
**20**  
COUNTRIES

**100**  
PER CENT FAMILY-OWNED



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We aim to be the leading provider of environmentally friendly, energy-saving heating, cooling and hot water solutions that are simple to operate. Our goal is sustainable and profitable growth for our family-owned company.

VISION OF THE VAILLANT GROUP

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Ladies and gentlemen,

2013 was one of the most successful years in the 140-year history of our family business. In an environment marked by weak economic activity in many European heating, ventilation and air conditioning markets, and in spite of increasingly fierce price competition, the Vaillant Group as in previous years continued on its steady course of growth. With net sales of €2,381 million, we generated the second-highest turnover since the company was founded, while further improving the Group's profitability at the same time. The operating earnings (EBIT) of 222 million surpassed the previous year's results by more than ten per cent.

The large markets UK, Germany, Russia and China played a decisive role in the positive development of the Group's business this year. In these markets, the Vaillant Group benefited from its expertise in its core business with efficient natural-gas technologies. We recorded substantial growth with respect to the condensing technology segment in particular, in the service business and in sales of system components.

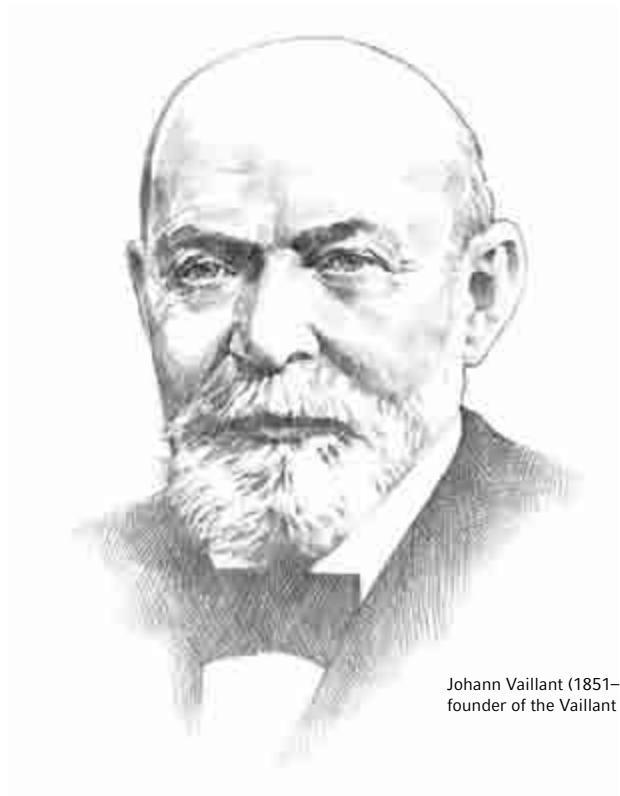
We continued with the expansion of the important condensing boiler product lines that was initiated last year. Regarding renewable energies, we responded to increased customer demand for air-water heat pumps by introducing a new series of appliances under several brands. Apart from extending the product portfolio, the Vaillant Group also strengthened its international market presence during 2013. We are aiming to develop growth potential throughout our core markets in Central and Western Europe on the one hand, while opening up markets for our products outside Europe on the other. To this end, we established new sales offices in several countries during the year, including Russia, Kazakhstan, China and Dubai. We were also able to make excellent progress in research and development. One particularly prominent project is the addition of a compact heating appliance based on fuel cell technology to our product portfolio. In March, a pre-series production line commenced operation. Ongoing field tests were extended in preparation for the market launch.

We are looking forward to 2014 with great confidence. The Vaillant Group has established an outstanding competitive position for itself in important future markets, as well as an excellent financial foundation to promote further growth. Our current position, with a positive net debt achieved for the first time since 2001, and our widely diversified financing structure give us far-reaching flexibility in our business activities. We are going to make use of this in order to achieve long-term, profitable growth for our family-owned company in a demanding, constantly changing market environment in the years to come.

Dr Carsten Voigtländer  
Chief Executive Officer  
Managing Director  
Sales & Marketing

Dr Dietmar Meister  
Managing Director  
Finance & Services

Dr Carsten Stelzer  
Managing Director  
Technology



Johann Vaillant (1851–1920),  
founder of the Vaillant Group

## THE FAMILY BUSINESS VAILLANT GROUP

The Vaillant Group has been a family business throughout the 140 years of its existence and continues to be wholly family-owned until today.

The company was founded by Johann Vaillant in the year 1874. The corporate strategy of the Vaillant Group has been focusing on sustainable and profitable growth ever since. The economic success of the company is inextricably linked to a commitment to social and ecological standards.

The owners of the Vaillant Group exercise their entrepreneurial responsibility on the Partners' Board, the Supervisory Board and in the Partners' General Meeting. The corporate strategy is laid down by the Management Board in close cooperation with the Partners' Board. The prime focus is on the long-term increase of the company's value. Well-established relationships with customers and suppliers that have grown over many years, a widely diversified financing structure and committed employees make an important contribution to the success of our family business.

The owner family is active in the bodies of the Vaillant Group and helps to shape the advancement of the company:

The **Partners' General Meeting** is the representation of all the owners. Its tasks include among others the appointment of the Supervisory Board and the members of the Partners' Board.

The **Partners' Board** is the representation of the owners that is elected by the Partners' General Meeting. It consists of three family members and two external members. The appointment of the Management Board and the adoption of that board's agenda including the allocation of responsibilities require the approval of the Partners' Board.

The **Supervisory Board** consists of six representatives of the owners and six representatives of the employees of the Vaillant Group. Its composition and rights are derived from the Companies Act, the Co-Determination Act, the agenda of the Supervisory Board and the articles of Vaillant GmbH. The Supervisory Board appoints the Management Board following prior approval from the Partners' Board.

# BOARDS

## PARTNERS' BOARD

### Dr Matthias Blaum

Lawyer, Meerbusch, born 1955, appointed 2007

### Dr Hubertus W. Labes

Lawyer, Hamburg, born 1961, appointed 2011

### Dr Christoph M. Müller

Lawyer, Küssnacht am Rigi/Switzerland, born 1948, appointed 1986

### Hartmut Reuter

Business consultant, Steckborn/Switzerland, born 1957, appointed 2010

### Dr Philipp Vaillant

Graduate engineer, Hanover, born 1968, appointed 2002

## MANAGEMENT BOARD

### Dr Carsten Voigtländer

Chief Executive Officer, Wermelskirchen, born 1963, Vaillant GmbH Managing Director since 1 Sep. 2009, CEO since 1 Jan. 2011

### Dr Dietmar Meister

Hilden, born 1962, Vaillant GmbH Managing Director since 1 July 2009

### Dr Carsten Stelzer

Wuppertal, born 1960, Vaillant GmbH Managing Director from 1 Sep. 2011 to 31 March 2014

## SUPERVISORY BOARD

### Dr Matthias Blaum

Lawyer, Meerbusch, born 1955, appointed 2007, Chairman since 25 June 2007

### Yasemin Rosenau

Chair of the works council Vaillant GmbH, Gelsenkirchen, Gelsenkirchen, born 1968, appointed 2006, Vice Chairman since 29 June 2011

### Willi Goos

Chair of the works council Vaillant GmbH, Remscheid, Radevormwald, born 1950, 2011 – 28 Dec. 2013

### René Krakau

Member of the works council Vaillant GmbH, Remscheid, Remscheid, born 1963, appointed 28 Dec. 2013

### Dr Hubertus W. Labes

Lawyer, Hamburg, born 1961, appointed 2011

### Norbert Lux

Trade union secretary of IG Metall Remscheid-Solingen, Remscheid, born 1962, appointed 2010

### Dr Christoph M. Müller

Lawyer, Küssnacht am Rigi/Switzerland, born 1948, appointed 2001

### Agustin Navarro-Lopez

Member of the works council Vaillant GmbH, Remscheid, Remscheid, born 1960, appointed 2011

### Hartmut Reuter

Business consultant, Steckborn/Switzerland, born 1957, appointed 2010

### Marcus Schmidt

Human Resources Manager, Dortmund, born 1966, appointed 2011

### Dr Philipp Vaillant

Graduate engineer, Hanover, born 1968, appointed 2001

### Sibylle Wankel

Trade union secretary of IG Metall District Management Bavaria, Munich, born 1964, appointed 2001

### Paul Witschi

Business consultant, Rüschlikon/Switzerland, born 1943, appointed 2007



01 2013

**Award for zeoTHERM**  
The zeolite gas heat pump wins the "Praxis Altbau Award for Product Innovations 2013".

03 2013

**R&D centre in Bozüyük**  
The Vaillant Group expands its research and development activities in Turkey.

04 2013

**Fuel cell**  
In April, the Vaillant Group presents the fifth generation of a compact heating appliance based on fuel cell technology.

→ Further information as of page 22

03 2013

**ISH Energy**  
The Vaillant stand is a centre of attention for thousands of visitors at this year's leading industry trade show held in Frankfurt am Main.

03-06 2013

**Campaign to donate heat and electricity**  
Around 2,000 supporters take part in a Vaillant online contest to win CHP stations for three social institutions.

06 2013

**Market launch of the aroTHERM heat pump**  
The Vaillant Group launches a new air-water heat pump at international level and gains market shares as a result.



# 03-09

2013

## Energy on the move

The exhibition ship MS Vaillant visits 50 European cities in eight countries between March and September.

→ See illustrated report on page 16



# 06

2013

## East Hub in Slovakia

As the first of six Group logistics centres, the regional warehouse for Eastern Europe went into service in Skalica.



# 06

2013

## Test centre in Wuxi, China

The Vaillant Group invests €1.5 million in a new test centre in Wuxi.



# 08

2013

## New offices opened in Dubai and Kazakhstan

The Vaillant Group steps up sales activities in the Gulf region and in Central Asia by opening new offices.



# 09

2013

## Partnership with the organisation SOS-Kinderdörfer

The Vaillant Group becomes the exclusive partner for the provision of efficient heating technology for SOS Children's Villages throughout Europe.

→ See report on page 28



# 10

2013

## Day-care centre

In October, the "Hoppelhasen" (Flopsy Bunnies) day-care centre opens its doors to the children of employees at the Group's headquarters in Remscheid.



# 11

2013

## German Sustainability Award

The Vaillant Group is among the winners of the German Sustainability Award 2013 for the category "most sustainable strategies for the future".



# PRODUCTS AND TECHNOLOGIES

The Vaillant Group provides a full range of products and services, covering the entire spectrum of heating, ventilation and air conditioning technologies for residential buildings and commercial properties. In addition to efficient heating and domestic hot-water technologies on the basis of traditional sources of energy, the product spectrum also includes all available technologies for the use of renewable energy sources and combined heat and power (CHP) systems. In its capacity as a full-range supplier, the Vaillant Group uses its technological expertise to offer its customers system solutions that have been adapted to suit their specific requirements from a single source.

The service spectrum covers the entire product life cycle from installation right through to appliance replacement. Key service offers include commissioning and maintenance, training and technology seminars, and technical support for trade partners.



## Condensing technology

Modern condensing technology reflects the current standard of energy-saving heat generation for domestic purposes. The technology is suitable for appliance replacement in existing building stock and installation in new buildings. It can be flexibly combined with additional system components and renewable energies. Condensing appliances are available as compact versions and with output ranges for virtually every type of application. The energy source – natural gas or oil – is utilised to the maximum physical limit. Even the residual heat in the flue gases, which would otherwise be lost through the chimney, is used for heating. Condensing technology offers a means of saving around 15 per cent of the heating costs compared with older boilers.

## Combined heat and power

**M**icro- and mini-CHP stations offer a means of generating electricity and heat simultaneously on site in the building. For this process, fuel is used once in order to serve a dual purpose. The resulting power is consumed directly where it was generated without line losses. This makes the units extremely efficient. Small CHP stations are attractive in times of rising electricity prices and particularly for homeowners who would like to be largely self-sufficient in their energy supply. The cogeneration process cuts CO<sub>2</sub> emissions by more than half and reduces the total energy consumption by up to 30 per cent compared with the conventional separate supply with electricity generated by a power plant and domestic heating.



## Renewable energies

**T**aking energy at no costs from the environment is the most sustainable form of heat supply. This is made possible by solar thermal collectors, for example, which are available in various sizes and models. Solar installations can be used to supply warm water or support the central heating system. The collectors are reasonably priced and easy to install. Heat pumps constitute an alternative technology. They draw the energy required in the building out of the ground, groundwater or air. Approximately 75 per cent of the necessary thermal energy can be obtained in this way. An additional amount of electricity serves as auxiliary energy. Pellet boilers use the renewable commodity wood. Wood is also regarded as being carbon-neutral as it only emits as much CO<sub>2</sub> during combustion as the plant had previously absorbed.



## Hybrid systems

**M**odern heating systems are made up of several components and put together according to the building and the household's energy requirements. Classic fuels are often combined with renewable energy sources. Storage units collect and buffer energy for subsequent use. Controlled ventilation systems with a heat recovering function create a pleasant indoor climate without any energy losses. Intelligent control technology ensures the perfect interaction of all individual components in the integrated system. Popular system solutions include gas-fired condensing appliances with solar support, or heat pumps with ventilation units. In other cases, a photovoltaic system supplies a proportion of the electricity required to operate the heat pump. CHP units in the low-output range designed for single-family houses work in conjunction with additional heating appliances, which step in to cover peak heating demands.

# BRAND FAMILY AND INTERNATIONAL PRESENCE

## Production and development sites

The Vaillant Group develops and manufactures products at a total of 13 sites in six European countries and the People's Republic of China. The production network is structurally set up for manufacturing product lines and technologies at central locations close to the main sales markets. The Vaillant Group maintains its own sales offices and customer forums in over 20 countries and exports its products to more than 60 countries. The regional focus of sales and marketing activities is on the European market, including Russia, Ukraine and Turkey. The People's Republic of China is the most important market outside Europe. Central marketing, sales and service teams support the national subsidiaries and sales companies.

## Vaillant brand

The Vaillant Group's brand family comprises eight international heating technology brands. The founding brand Vaillant is the historically oldest and internationally most well-known heating technology brand of the company. It is perceived by customers as the epitome of superior-quality products, German engineering excellence and renewable energies. Products are sold under the Vaillant brand in all countries in which the Vaillant Group operates.



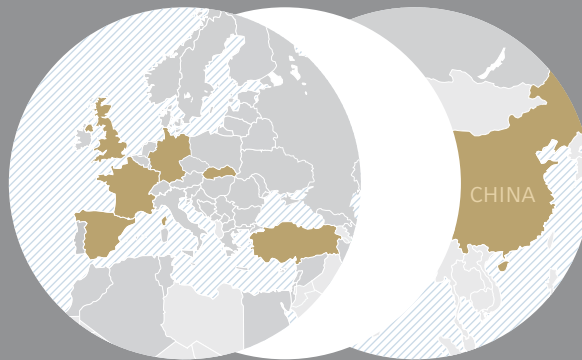
## Saunier Duval brand group

The Saunier Duval brand group comprises the brands Saunier Duval, AWB, Bulex, DemirDöküm, Glow-worm, Hermann Saunier Duval and Protherm. The technological focus embraces the entire spectrum of traditional heating technologies, ventilation systems and heat pumps. Apart from Germany and Switzerland, the Saunier Duval brand group is regionally represented with its brands throughout the whole of Europe, including Turkey.





Countries in which the Vaillant Group maintains production and development sites



Countries in which the Vaillant brand is represented with products and services



Countries in which the Saunier Duval brand group is represented with products and services



# EMPLOYEES

The strong competitiveness of the Vaillant Group thrives on the entrepreneurship, the professional expertise and the personal commitment of the more than 12,000 people, who work for the Group all over the world. Around 50 nationalities are represented in the workforce, underlining the international orientation of the Vaillant Group. We want to preserve this most valuable resource for our future benefit. Therefore we make every effort to maintain the long-term attractiveness of the Vaillant Group as an employer.





# MORE THAN 12,000 PEOPLE WORKED FOR THE VAILLANT GROUP IN 2013

A STAFF OF 680 WORK IN  
PRODUCT AND TECHNOLOGY  
DEVELOPMENT

AROUND 50 NATIONALITIES  
ARE PART OF  
THE VAILLANT GROUP

4,200 VAILLANT GROUP EMPLOYEES  
WORK IN CUSTOMER SERVICE





# *MS Vaillant Energy on the move*

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EIGHT COUNTRIES, 50 CITIES AND MORE THAN 9,000 KILOMETRES OF WATERWAYS – THIS IS THE JOURNEY MADE BY MS VAILLANT DURING ITS EUROPEAN TOUR IN 2013. THE VAILLANT EXHIBITION SHIP TOOK ON BOARD THE ENTIRE SPECTRUM OF ENERGY-EFFICIENT HEATING TECHNOLOGY AND TECHNICAL INNOVATIONS FOR SUCCESSFUL COMPLETION OF THE ENERGY TRANSITION IN PEOPLE'S HOMES.



Hamburg  
13–16 April 2013



## MS VAILLANT

In an effort to give people an opportunity to experience modern heating technology and the energy transition in an unusual setting, the Vaillant Group quickly transformed a cargo ship into the MS Vaillant. Capable of accommodating more than 150 visitors, the mobile floating product and service exhibition subsequently sailed away to present the Vaillant Group's technology all over Europe.

Kiel  
19 April 2013



**DIE ISH  
NIMMT KURS  
AUF IHRE  
STADT.**

Weil  **Vaillant** weiterdenkt.

Frankfurt  
11–15 March 2013  
26 June 2013



**DIE ISH  
NIMMT KUR  
AUF IHR  
STADT**

Weil  **Vaillant** weiterdenkt.



Stuttgart  
1 July 2013Würzburg  
15 July 2013

## "ENERGY ON THE MOVE"

After the christening ceremony, which was held in Düsseldorf on 17 March 2013, the MS Vaillant set off on its journey, stopping off at the "Kreativ-Kai" (Creative Quay) in Münster harbour, visiting Hanover and the "Autostadt" (Car City) in Wolfsburg, and dropping anchor in Berlin. Apart from many other German cities, the ship's course took it to a number of neighbouring European countries. It stopped off in Utrecht, Venlo and Zwolle in the Netherlands and took part in events held in the Belgian cities of Antwerp, Gent, Liège and Namur, before setting sail for Austria, Slovakia, Hungary, Serbia and Croatia.

Mainz/Wiesbaden  
12 July 2013



## MORE THAN 10,000 VISITORS

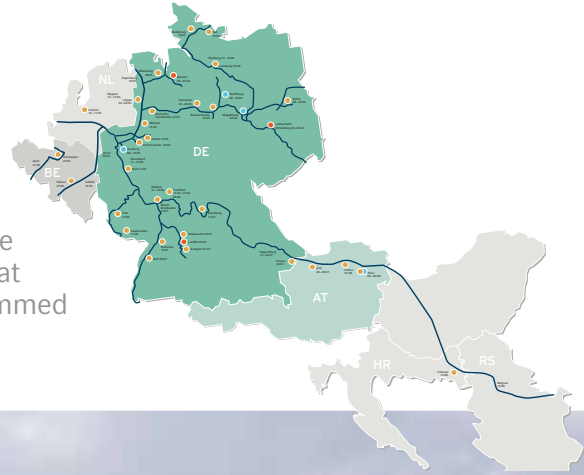
All in all, the 85 events held along the route of the MS Vaillant attracted more than 10,000 trade visitors between March and September 2013. Consumers and private property owners also had the chance to gather information and seek expert advice concerning energy-saving potential on the MS Vaillant. The ship opened its "hatches" exclusively for end customers at twelve special one-day events.





## PRAISE AND APPRECIATION

"A very original idea that will stay in our memories for a long time to come." "A really unusual story and I'm still absolutely fascinated by it!" "First class: an interesting new presentation concept," was the opinion of visitors and trade partners alike. "The MS Vaillant was a complete success. It was our way of addressing the subject of the energy transition at an international and regional level while drawing attention to energy-saving potential in private households at the same time," Marc Andree Groos, Head of Vaillant Germany, summed up the floating road show.



Belgrade  
15 August 2013





Vienna  
4–6 August 2013



Krems  
1 August 2013







On the road towards an age of renewable energies, fossil fuels will continue to play an important role in the supply system

# *Natural gas: driving force for a new heating era*

In the light of advancing climate change, a fundamental transformation process began to take place within the energy industry over the last decades. The European governments have formulated common targets, which are essentially governed by three factors: the expansion of renewable energies, the improvement of energy efficiency and the reduction of greenhouse gas emissions. According to the Germany-based Wuppertal Institute for Climate, Environment and Energy, the radical restructuring of current supply systems with an ever-growing share of renewable energy from fluctuating sources will require natural gas to occupy a special position to secure supplies.

**R**ecent forecasts issued by the International Energy Agency (IEA) indicate that the demand for natural gas will continue to grow. Consumption is expected to increase by around 100,000 billion cubic metres to 640,000 billion cubic metres by 2035. Although natural gas accounts for different proportions of energy consumption in the various EU countries, as far as the EU as a whole is concerned, natural gas overtook the previously predominant fuel oil a long time ago and is now dominating the European heating market. Recent analyses conducted by the British Department of Energy & Climate Change (DECC) revealed that space heating and domestic hot water account for 64 per cent of natural-gas consumption in the UK, for example, in Germany the corresponding figure is 48 per cent.

The special advantages of natural gas over other fossil fuels have ultimately resulted in a paradigm shift. Natural gas is the fossil fuel with the lowest emissions. It is versatile and can be used in both large central and small decentralised systems. Moreover, natural gas is ideal for combination with renewable energies. Another major point in its favour: natural gas has a well-developed, efficient infrastructure. Renewable gas resources, such as bio-natural gas and synthetically produced methane, will benefit from this in the future.

### Modernisation backlog in residential heating

With 41 per cent, the buildings sector accounts for the largest proportion of energy consumed throughout Europe. Of this, 85 per cent is used to heat rooms and supply hot water, whereas electricity only accounts for a mere 15 per cent. According to data published by the Association of the European Heating Industry (EHI), there are 120 million boilers currently installed in Europe. An estimated 70 per cent of these are far from being state-of-the-art technology, which means that they operate inefficiently and cause unnecessarily high emissions. According to the EHI, energy efficiency could be improved by 20 per cent if the antiquated boilers were to be replaced by modern heating appliances. The resulting savings – equivalent to almost 97 million tonnes of oil – would correspond to the total annual energy demands of Ireland and the Netherlands.

In spite of the great potential offered by the replacement of outdated systems, little progress is being made in the modernisation of heating systems throughout Europe. Data published by the EHI indicates that there has been a slight decline of minus three to five per cent in the European market for energy-saving technology in recent years. The building modernisation rate in Germany currently amounts to one per cent.

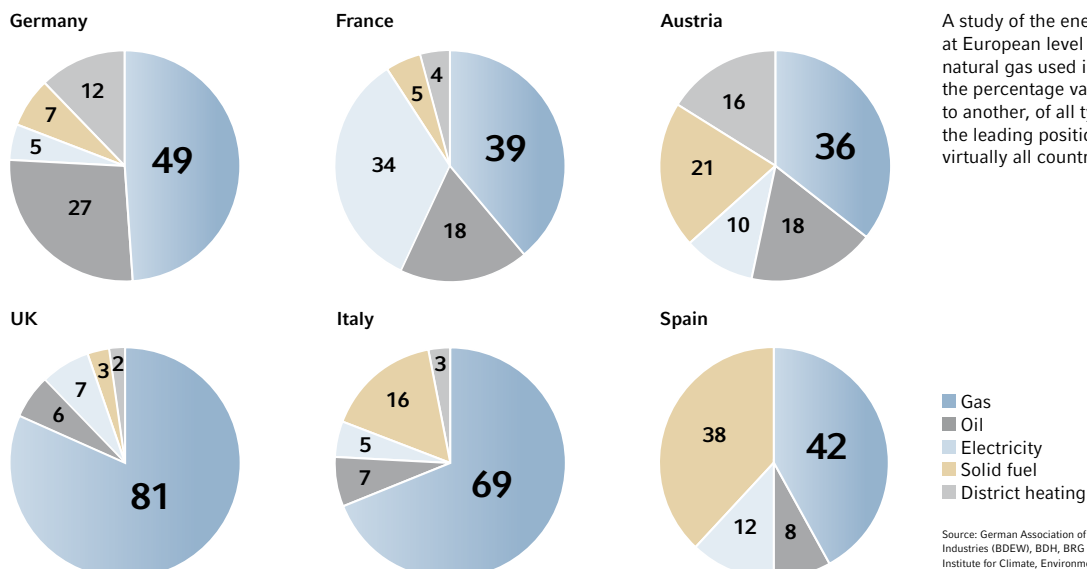
A glance in the boiler rooms of Europe clearly shows: A heating revolution will be necessary to ensure that the EU achieves its energy and climate objectives. To that end, modern gas-fired heating systems will be going hand in hand with growth in the field of renewable energies.

### Innovative technologies

A wide spectrum of highly efficient natural-gas technologies is available to both private residential property owners and the public sector. Modern gas-fired condensing appliances can be combined with renewable energies – such as solar collectors – to conserve resources. Condensing technology has become an established standard in many European countries, with the UK and the Netherlands well in the lead with more than 90 per cent, followed by Germany, with around 65 per cent.

Apart from the proven traditional systems, there are other innovative heating technologies using natural gas available on the market at affordable conditions. These include combined heat and power (CHP) stations, for example, which generate both heat and electricity. Predominantly used in the industrial and commercial sectors in the past, CHP systems are now available for residential buildings as well. The same applies to heat pumps, which obtain heat naturally from

### Heating energy mix in the housing stock of selected EU countries in per cent



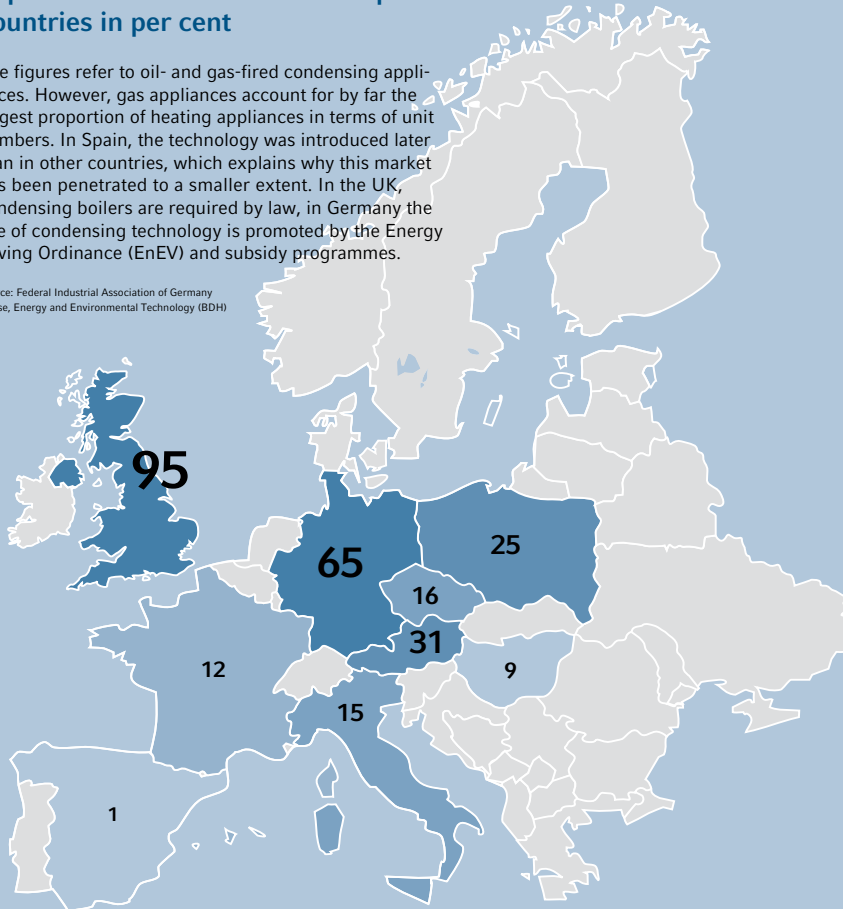
A study of the energy used in the housing stock at European level reveals the high proportion of natural gas used in all of the countries. Although the percentage varies significantly from one country to another, of all types of fuel, natural gas occupies the leading position in terms of heat generation in virtually all countries.



## The proportion of condensing appliances used in selected European countries in per cent

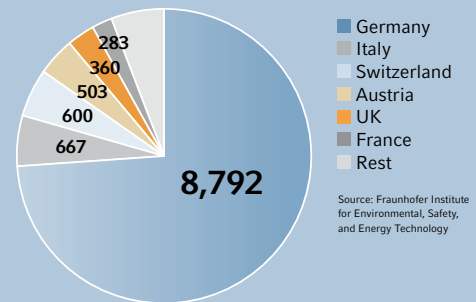
The figures refer to oil- and gas-fired condensing appliances. However, gas appliances account for by far the largest proportion of heating appliances in terms of unit numbers. In Spain, the technology was introduced later than in other countries, which explains why this market has been penetrated to a smaller extent. In the UK, condensing boilers are required by law, in Germany the use of condensing technology is promoted by the Energy Saving Ordinance (EnEV) and subsidy programmes.

Source: Federal Industrial Association of Germany House, Energy and Environmental Technology (BDH)

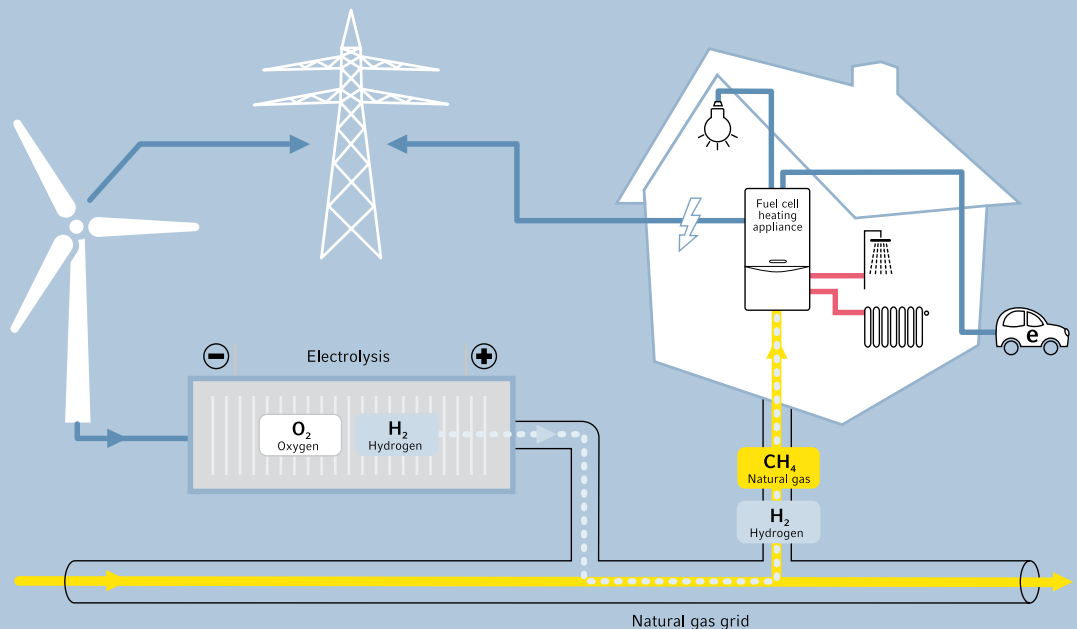
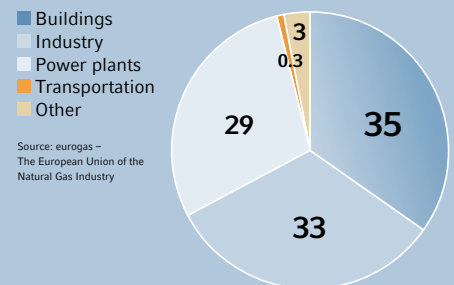


## Gas from biomass

Biogas is an important building block of the energy supply from renewable energies. Germany leads the European field with around 8,800 biogas plants. The German government wants to increase the volume of biogas to 30,000 billion cubic metres a year by 2030 – that is ten per cent of today's natural-gas consumption.



## Natural-gas sales within the EU by sectors in per cent



## Power-to-gas method: green electricity transformed into green gas

The so-called power-to-gas method is a chemical process that converts surplus wind or solar power into synthetic natural gas. The power is used to break water down into hydrogen and oxygen by means of electrolysis. Then, carbon dioxide is added to the hydrogen to initiate a transformation into methane. This “green” gas is fed into the natural-gas grid, turning the existing network into a storage facility for power from renewable resources that nobody needed at the time of its generation. If, on the other hand, there is a shortage of power at times of peak demand, which cannot be covered by means of renewable energies, the gas is converted back into power in a regular power plant or decentralised CHP station. The natural-gas grid can be used to not only transport the energy, but also to store large quantities for long periods without any losses. This means that power-to-gas plants can virtually become “giant storage batteries” for power generated by renewable energy resources. They also relieve the burden on the extra-high-voltage power supply networks.

the environment and can be operated in combined systems with gas-fired condensing technology. The zeolite gas heat pump is even more efficient. Apart from condensing technology and solar thermal collectors, these heat pumps have introduced the use of the mineral zeolite for heating purposes. The special thermodynamic properties of this mineral make it possible to generate temperatures of up to 80 degrees Celsius simply by bringing it in contact with water, without requiring any additional energy input or producing pollutant emissions.

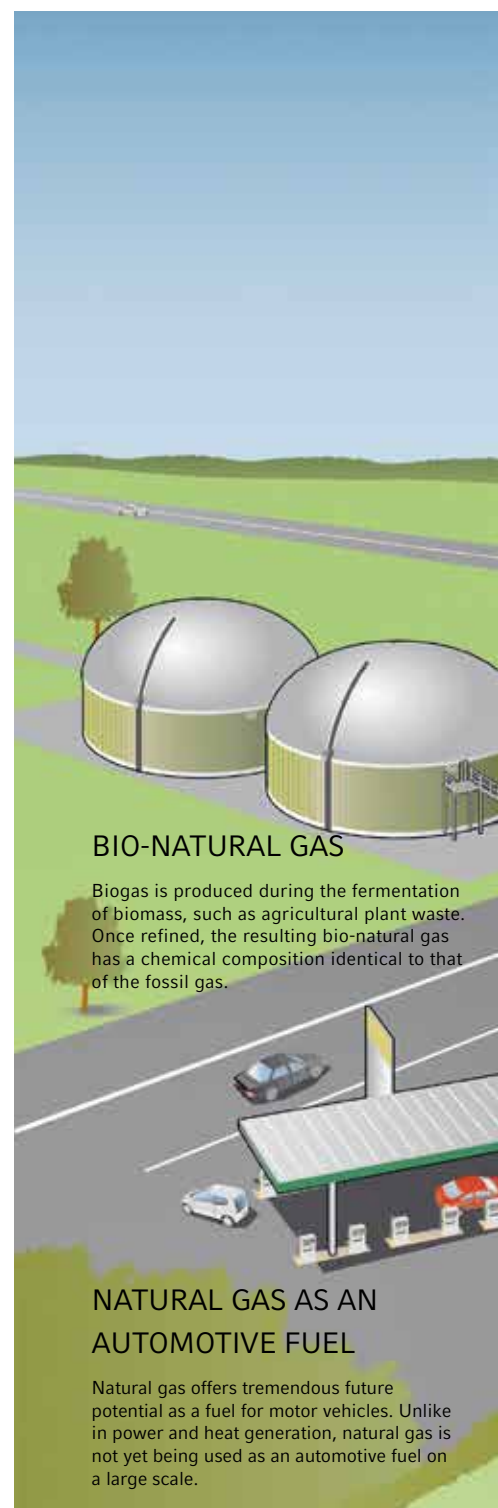
### Prototypes in field testing

In the future, developments such as the natural-gas-powered fuel cell will make major contributions towards the heating revolution in the heating cellar. Fuel cells generate power and heat simultaneously by virtue of an electrochemical reaction, achieving above-average efficiency with low pollutant emissions. 40,000 heating systems with this technology have already been installed in Japan. The practical feasibility of fuel cells is currently being tested throughout Europe, for example within the framework of the ene.field project sponsored by the European Commission. Vaillant fuel cell heating appliances of the current and future generations are also involved in the project.

Without the need for any test phases, bio-natural gas can today already be integrated into modern applications. Biogas is produced during the fermentation of biomass, such as agricultural plant waste and crop residues. It is then refined to

produce bio-natural gas, which has a chemical composition identical to that of the fossil fuel. The key advantage of this renewable energy source over wind and solar power: Bio-natural gas can use the existing natural-gas infrastructure. Up to now, this fuel has been predominantly used directly from the local source for community supply. There are around 12,400 plants producing biogas in Europe and these include agricultural and commercial production facilities. Germany is playing a pioneering role in this respect with approximately 8,800 biogas plants.

Synthetic natural gas is another innovative energy source that can be integrated into existing systems. It is produced in what is referred to as the power-to-gas (P2G) process. This technology makes use of surplus electricity generated by renewable energies and converts it into synthetic natural gas by means of a so-called methanation reaction. The gas can be fed into the grid and stored without any problems. At times of high energy demand, it can then be converted back into power or used as an energy source to supply heat. Power-to-gas technology is in the research and development stage at present. According to the German Energy Agency (dena), power-to-gas could play a significant role as a system solution from 2020 onwards. The transition into a renewable, climate-friendly age cannot be achieved overnight; it requires the right approach. Natural-gas technologies, with all of their versatile qualities, will play an important role in this process.



### THE FUEL CELL – A PIONEERING ACHIEVEMENT

The Vaillant Group has been conducting research in the field of fuel cell technology since 1998 and was the first company in the heating technology sector to do so. Together with partners from the energy industry and international networks, the Group has investigated the practical feasibility of more than 100 systems in the course of pan-European field tests so far. The Vaillant Group has been concentrating on solid oxide fuel cells (SOFCs) since 2008. Since 2011, around 550 fuel cell heating systems, including more than 100 wall-hung SOFC appliances manufactured by the Vaillant Group, have been operated in single-family homes within the framework of the Callux field test project. Sponsored by the German Federal Ministry of Transport and Digital Infrastructure (BMVI), it is the largest field test in Germany and scheduled to run for eight years.



# Innovation and technical diversity

Natural gas is a highly versatile fuel because of the numerous ways in which it can be employed. Heating buildings is traditionally the largest and most technically diversified field of application. Apart from this, natural gas also has its traditional place in the generation of electricity. Increasingly, motor vehicles use it as an alternative fuel. The number of biogas plants is growing throughout Europe and with it the proportion of green gas in the energy mix. Innovations such as decentralised CHP stations, gas-fired heat pump systems and fuel cell heating appliances demonstrate the steady and continuing advancement of technologies based on natural gas.

## MICRO-CHP STATIONS

These decentralised cogeneration systems generate power and heat simultaneously on site in the building, offering a high degree of self-sufficiency.

## FUEL CELL HEATING APPLIANCES

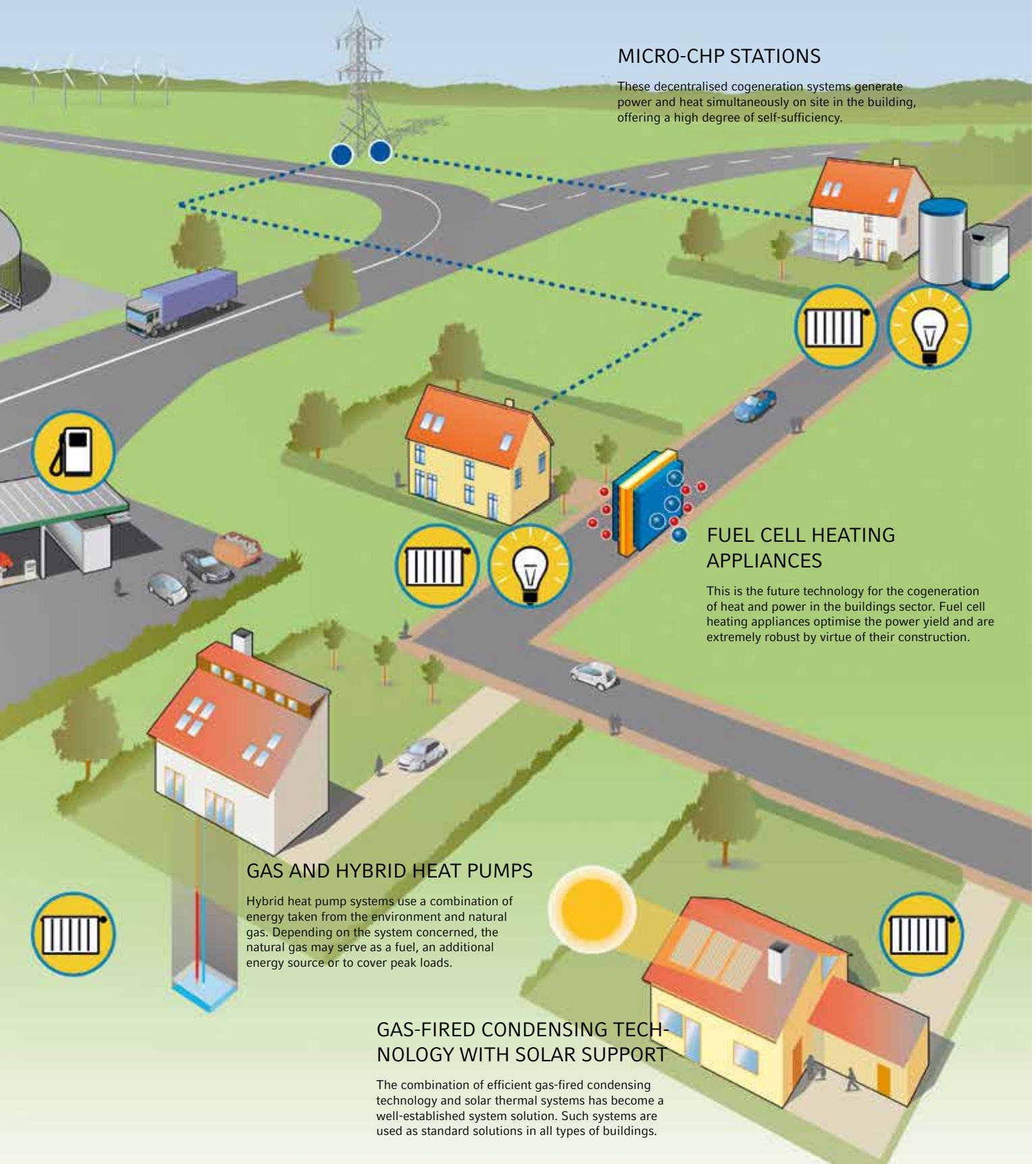
This is the future technology for the cogeneration of heat and power in the buildings sector. Fuel cell heating appliances optimise the power yield and are extremely robust by virtue of their construction.

## GAS AND HYBRID HEAT PUMPS

Hybrid heat pump systems use a combination of energy taken from the environment and natural gas. Depending on the system concerned, the natural gas may serve as a fuel, an additional energy source or to cover peak loads.

## GAS-FIRED CONDENSING TECHNOLOGY WITH SOLAR SUPPORT

The combination of efficient gas-fired condensing technology and solar thermal systems has become a well-established system solution. Such systems are used as standard solutions in all types of buildings.









## REPORT

# *Just a normal family*

## *SOS Children's Village Battonya*

HERMANN GMEINER FOUNDED THE FIRST SOS CHILDREN'S VILLAGE IN THE AUSTRIAN TOWN OF IMST IN 1949. HIS IDEA WAS TO CREATE A NEW HOME FOR ABANDONED, DESTITUTE AND ORPHANED CHILDREN. IN THE MEANTIME, MORE THAN 500 SOS CHILDREN'S VILLAGES HAVE BEEN ESTABLISHED IN 133 COUNTRIES WORLDWIDE, INCLUDING THE ONE IN BATTONYA, HUNGARY.

The day gets off to an early start for Margit Balázs at the SOS Children's Village Battonya. She gets up at six o'clock in the morning and wakes the children half an hour later: ten-year-old Robert, his brother Zoltan, who is eleven, Ludwig aged twelve and 15-year-old Kitty. Margit Balázs makes breakfast for everyone before the children go off to school. The 53-year-old uses the rest of the morning to do the household chores, go shopping and prepare lunch for herself and the four children, who get home from school at around 2 o'clock in the afternoon.

Although Balázs didn't give birth to the four children, she is responsible for them at the SOS Children's Village Battonya in Hungary. She has been living and working there since 1988. Having trained as an administrator, she actually went to the children's village to visit a friend, but she was so fascinated by the work being

done there and the atmosphere that she decided to stay. That was more than 25 years ago. She began working as a temporary help initially. When one of the foster mothers left the village shortly afterwards, Balázs seized the opportunity to start training as an SOS mother. "I haven't regretted taking this step for a minute in all this time," the 53-year-old explains. "I can work very independently here and make my own decisions. There are challenges as well, of course. Encouraging slow-learning children to stay on at school, for example. It's a wonderful feeling when they successfully manage to pass their exams."

One of Margit Balázs' important duties is therefore to help the children with their homework during the afternoons. "This sometimes takes a long time when the children need extra coaching in certain subjects, for instance," she sighs. In the winter, when it gets dark early, the

children then watch television or play video games. During the summer, they spend a lot of time outside. The regular daily routine is rounded off by everyone gathering around the table for dinner in the family circle.

Orphaned children were the most frequent arrivals during the early days of the SOS Children's Villages. Nowadays most of the children come from difficult family backgrounds, with biological parents who are no longer capable of caring for them. "These children need a great deal of attention, a lot of comfort and they need to develop a sense of being part of a community," explains village manager Szabolcs Németh. Therapists, educators and teachers support the SOS mothers in raising the children. The village manager is also on hand to support the mothers and give them advice. Németh is a teacher and social education profes-



Support from the Vaillant team: In a spontaneous operation, Gabor Seidl's team renovated the complete heating and hot-water system for the buildings in the SOS Children's Village.



sional and he works closely with the SOS mothers.

### Hungary's first children's village

Battonya is located in south-eastern Hungary, not far from the borders with Serbia and Romania. Just under 6,000 people live here. It is a rural region, where the unemployment rate is higher than the national average. Many families are struggling to make ends meet.

The children are among those who suffer the most. Although well-meant laws were passed in 1997 in an effort to improve the situation of the children in Hungary, there are still insufficient resources and qualified personnel available for successful implementation of the reforms. Needy families are still not receiving the financial or social support they require in order to be able to care for their children.

The first SOS Children's Village was established in Battonya a good ten years earlier, in 1986, when Hungary was still a communist country. The village was completely funded by the private SOS Children's Villages organisation. There are now two other children's villages in

Hungary: in Kecskemét, around 150 kilometres north-west of Battonya, and in Köszeg, on the border with Austria. A total of around 400 children are living in the villages of the non-profit organisation in Hungary at present.

*The purpose is to offer the children a home where they can develop perspectives for the future – in the same way as in a normal family.*

The children's village in Battonya is situated in the heart of the town. There are eleven residential houses and a community building on the 35,000 square metre premises. A large playground with a climbing frame and two football fields offer plenty of space for recreational activities. Each house accommodates a family, comprising a foster mother and between four and six

children. The children's ages range from infancy right through to adulthood at the age of 18 years. Two of the mothers in Battonya are married, therefore these families have foster fathers as well. Sisters and brothers, such as Robert and Zoltan, live together in a family and are not separated from one another. This is a matter of principle in the children's villages. All of the people who live in the village meet in the community hall to socialise and to celebrate at Christmas, for example. The purpose of the village is to offer children a home in which they can learn to structure their daily lives, find their bearings within the community and develop perspectives for the future – in the same way as in a normal family.

Another focal point of the work performed here is the liaison with the children's biological parents. Cultivating the contact with parents is one of the main concerns of the SOS Children's Villages. Wherever possible, they are encouraged to become involved in the parenting concept and visit their children. The children should be aware of their origins. "Sometimes the biological parents manage to overcome their diffi-



culties and we are able to integrate the children back into their original families again. That is a tremendous success for us," says Németh.

#### A fortunate coincidence

Accommodation, food, clothing, wages for the foster parents, educators and therapists – all of these things cost money. The donations are not always sufficient to cover all of the expenses. Available funds can only provide the most urgent things. As a result, no investments have been made in modernisation measures for the buildings in years. The heating systems and hot-water appliances in the children's village houses were eventually so dilapidated that the local utility suspended the gas delivery. It was around the same time that the Vaillant Group decided to step up its social commitment in Hungary even further. "It's all very well to donate money at Christmas, which is a well-established practice among companies in Hungary. But what we were looking for was a project which would offer us a vehicle for a long-term commitment. One that also had a point of reference to the company's actual business operations," explains Gábor Seidl, head of Vaillant Hungary. He finally received a letter from the children's village, asking whether he and his team could help to repair the heating system.

Seidl, himself father of four children, didn't need to consider his decision for very long. "That was just the right project for us: it enabled us to use our products and expertise, as well as the personal commitment of our staff, to help families," says the 50-year-old. "Apart from that, I know the people there. I know that support will be received where it is needed." Just a few days later, Seidl sent engineers and technicians to Battonya to check the heating system. It soon became evident that the entire system needed to be modernised. "That was more than we could manage alone," Seidl explains, "so we contacted our colleagues in Germany." The idea immediately met with great approval here as well. The staff at the sites in Remscheid (Germany) and Skalica (Slovakia) soon delivered all of the equipment required to renovate the heating system to Hungary, where local employees assumed responsibility for installing and commissioning the new system. In good time for the cold winter months, all of the eleven

houses and families in the Children's Village Battonya had hot water and a functioning heating system again.

*Sometimes we are able to integrate the children back into their original families again. That is a tremendous success.*

The spontaneous relief operation for the Hungarian children's village has now been transformed into a long-term, pan-European project. In a contract concluded in 2013, the Vaillant Group agreed to enter into a fixed, long-term partnership with the German association SOS-Kinderdorf e.V. The company is now the exclusive provider of modern heating technology for the children's villages. The registered needs have been growing ever since. Meanwhile, other projects

have already been initiated in Germany, France, Ukraine and in Romania. Battonya is still a special case. Gábor Seidl and his staff want to stay in contact with the children from Battonya. They therefore organised a painting competition on the subject of warmth and subsequently posted the pictures on the Hungarian Vaillant website. Wholesale partners were asked to vote for their favourite paintings. The prize awaiting the young artists was a trip to Budapest, including a visit to the zoo.

Gábor Seidl has already launched the next large-scale project: Vaillant offers children from the SOS Children's Villages internship positions during the summer. His long-term plan is to organise an apprenticeship programme for young people to become installers in cooperation with local HVAC contractors. "I would like to prevent history repeating itself for the children of these children. The best way to do that is to ensure they have a good education and sound vocational training," says Seidl.



Battonya was founded in 1986 as the first SOS Children's Village in Hungary. Around 60 boys and girls live in Battonya today, along with the SOS mothers, carers and teachers.



INTERVIEW WITH PROF. DR ARIST VON SCHLIPPE

## *“Family businesses are distinctly value-oriented”*

AT THE PRIVATE WITTEN/HERDECKE UNIVERSITY, PROF. DR ARIST VON SCHLIPPE RESEARCHES ABOUT LEADERSHIP AND DYNAMICS IN FAMILY BUSINESSES. WE MET HIM AT HIS CHAIR FOR A CONVERSATION.

**Professor von Schlippe, the Vaillant Group has been completely family-owned for 140 years. In times of an interconnected global economy, many people highly praise the contribution made by traditionally minded family-run businesses. What makes these companies so successful?**

The families put considerable resources at the disposal of the company. Reputation, for example, and established networks, stable and well-cultured relationships with customers or political stakeholders, and often deeply anchored regional roots. Apart from this, members of the family and managers demonstrate a high level of commitment to the company. As a rule, managers in family enterprises often remain at the helm for a long time, up to 20 to 25 years in some cases, rather than just for four or five years. The management tends to be more loyal in general and less likely to change companies at the first lucrative offer that comes along.

**Family businesses are said to have more long-term orientation rather than panting from one quarter to the next.**

This is because the shareholders are not investing in just any business, expecting a return on their money as quickly as possible, but in this particular one, their own company. This is why the family's capital is said to be “patient” capital. It's not unusual for family enterprises to be willing to temporarily go without dividends, or even inject funds from their personal assets in order to keep their staff in times of crisis. However, the family-owned companies that have enjoyed generations of success are careful to ensure that the aforementioned advantages do not turn into disadvantages at some point. Being sensitive to both aspects of the family business and guarding against erroneous developments are the main challenges facing the management.

**Are there special challenges confronting family businesses in particular?**

The field of order of succession and personnel decisions is one classic example. If the economic size of the company has reached a certain level, simply being a member of the family cannot be the deciding criterion when filling a management vacancy. That would be nepotism. The person who assumes responsibility for the company must have the qualifications required in order to be able to run the business.

**Does that mean that the individual prerequisites of the company are what count?**

Yes, that's right. A high degree of professionalism is evident in companies run by managers who are not members of the family. Nevertheless, companies being run by the third or fourth generation of one or several partners are also very successful, as demonstrated by many examples, such as Miele, Bitburger, Wuppermann and the Metzler bank.

**Does the management of a family enterprise really differ from that of any other medium-sized company or international corporation to such a great extent?**

Indeed it does. Two social systems, which pursue very different logical concepts, are woven together in a family business: “family” and “business”. Families are inherently based on long-standing relationships, whereas functions and decisions are of crucial importance to a business. A decision that is correct and reasonable for the business may give rise to irritation in the context of a family.

**That means that conflicts are inevitable.**

Not necessarily. The organisation merely becomes more complex to start with. And a certain amount of sensitivity is needed in order to anticipate potential friction and





## ABOUT ARIST VON SCHLIPPE

**Prof. Dr Arist von Schlippe**, born in 1951, is the Academic Director of the Witten Institute for Family Business (WIFU) and holder of the chair for “Leadership and Dynamics in Family Businesses” of the private Witten/Herdecke University. His research focuses on family management and conflict management in family businesses, succession concepts, communication of values and corporate culture, as well as generation-spanning entrepreneurship. Prof. von Schlippe publishes in his field of expertise at regular intervals. He is co-editor for numerous academic book series, monographs and journals. In addition, he is involved in several associations, foundations and societies. Prof. von Schlippe is married and the father of three children.

### How do family businesses go about expanding into international markets?

As a rule, a family enterprise enters an international market more quickly than a corporation, provided the family is in favour. The decision-makers in a corporation are often more likely to protect themselves and request yet another expertise, just to be on the safe side and not be held solely responsible if something goes wrong. Social competence and networks also play a special role with respect to expansion at an international level. Long-standing connections have often been established with other family-owned companies in the countries concerned. Similar ideals are shared and mutual trust is built up quickly. Family enterprises prefer to make friends with their acquaintances first before becoming partners in business.

### Many family businesses tend to be located well outside Europe’s major cities. What is it about them that attracts employees nonetheless?

Their pronounced orientation to values and their attitude to their staff. Nowadays, people have a greater need to be perceived as personalities than they used to. They would like to be more than just a number or a small cog in a big machine. To many people, the ideal boss is someone who is personally acquainted with every member of staff – even if that’s no longer possible in large-scale companies.

### Do family entrepreneurs and managers in family-owned companies tend to regard their employees as extended family?

That’s a nice comparison. In any case, the company has more of a family nature as a rule, as is evident in its approach to employees and the style of communication. Conversely, however, the family becomes more like a company, for example. It has to organise itself in committees and make decisions on the basis of formal processes. An awareness of this duality is required to ensure that both sides of the system benefit from one another to the greatest extent possible.

to prevent or to resolve conflicts. Most of the companies that already exist in the third or fourth generation of the family have learnt to cope with this situation and have developed rulings that help them to avoid conflicts.

### How exactly do they do that?

We initiated a study on this with eleven large family enterprises that generate sales between 200 million to 20 billion euros and have existed for at least four generations. We found that all of these family businesses pursue similar “metastrategies” in an effort to conserve the family as a resource for the company: they make every effort to ensure the broadest possible legitimization when important business decisions are made. That means that various bodies, such as the shareholders committee and supervisory board become involved. They also steer clear of “take it or leave it” decisions. Although these would be efficient and expedient in the short term, they often give rise to more serious problems and are not therefore ideal in the long term.



Nestling in the heart of the Alps, the charming little town of Imst displays Tyrolean nature in all its beauty. Mountains and valleys merging together harmoniously, some grand and majestic, others craggy and precipitous. The landscape is characterised by the fresh green tones of meadows and forests in the summer, and by the white blanket of snow in the winter. The little town of Imst is a popular holiday destination particularly for families.

This is where Karl Gstrein grew up, surrounded by nature and in harmony with it. His family were farmers. “Ours was a large family with six children,” he explains. “The community was important, helping one another within the family

The town of Imst, with its population of 10,000, offers an impressive Alpine panorama around 800 metres above sea level.



IN IMST, A SMALL TOWN IN THE TYROLEAN STATE OF AUSTRIA, ENTREPRENEUR KARL GSTREIN HAS TURNED HIS VISION OF FUTURE LIVING INTO REALITY. THE TENANTS OF THE RESIDENTIAL COMPLEX ARCHE NOAH (NOAH'S ARK) DON'T LIVE ANONYMOUSLY NEXT TO EACH OTHER, INSTEAD THEY SUPPORT ONE ANOTHER. THE ARK DRAWS ITS ENERGY FROM THE FORCES OF NATURE.

# Noah's Ark – energy-efficient living

and in the neighbourhood.” In the past. But time has not stood still in Imst, with its population of just under 10,000, either. Here as well, the multi-generation family has almost disappeared. Young people often move to the urban centres for employment and career opportunities. The older generation stays behind. Former businessman Gstrein, who spent many successful years working in the real estate industry, is not a man to complain. He is the type who gets things done. His idea: to design a residential complex, in which people live together rather than next to one another. Where there is a place for everyone, from infant to pensioner, where status and standing are not important and disabilities are not handicaps. He transformed this idea into

reality together with his family – Ruth, his wife, his children and Renate, his sister.

As the name implies, there is a great deal more behind Arche Noah than just a residential building. Designed by the architect in the shape of a ship of the same length and breadth as the ark described in the Bible, the building complex now stands on the ground previously occupied by the family farm. The entire compound has been planned to ensure easy accessibility: it should be possible for people of all ages to live there. The ark comprises 18 residential quarters. The communal wing is the heart of the complex, along with the outdoor facilities. These include a bakery, a smoke house, a meditation

room, a laundry room and a spa area with sauna and steam bath. A communal recreation room is also available to all residents and serves as a meeting place and the hub of social life in the ark.

The community in the ark depends on everybody making a personal contribution towards the community. Because that is the idea: “We all help together”, Gstrein sums it up in simple terms. Keeping an eye on the baby so that the young mother can pop out to the shops to run an errand. Or picking up a prescription from the chemist for the elderly gentleman next door. It is the routine day-to-day things that make the difference, and that is the intention. For every service rendered to the community – such as



Building installation technology of showroom quality: the unusual configuration of the Arche Noah system comprises a geoTHERM brine-water heat pump, two ecoPOWER 4.7 mini-CHP units, an ecoVIT gas-fired condensing boiler, seven flat-plate solar collectors and 19 photovoltaic modules.

cleaning jointly used areas, replacing lamps, doing the shopping or working in the garden – residents earn points. Ten social points per resident per month have been agreed upon. Anyone wishing to live in Arche Noah must be willing to do their share. Likewise, the residents split the costs of maintaining the communal facilities – the ark is managed sustainably.

Living in a residential complex where everyone knows everyone else and there is no anonymity certainly isn't everyone's cup of tea. Arche Noah is fully occupied nevertheless. From baby to pensioner; doctor, baker and unskilled labourer; dyed-in-the-wool Tyroleans and people hailing from Upper Austria, Vienna, Germany and some with Turkish or Russian roots. The ark is colourful and diversified.

Life in all its colour is particularly bustling during the warm summer months, when the sun draws everyone outside to gather around the pool or in the garden, where native species grow: apples, pears, damsons, cherries, chestnuts, walnuts and grapes. The biotope is

intended to bring nature closer to the lives of the residents again, particularly for the children. People meet there almost every day, for a chat or just to spend some time. Cooking together and baking are popular pastimes during the winter. Especially with the local baker present to give his professional advice.

Another feature of Arche Noah is of special importance during the cold winter months. The heating technology used in the building complex is by no means commonplace. Instead, it is an example of a sustainable energy supply that embraces every type of available modern technology. In addition to a heat pump that uses carbon-neutral geothermal energy, large areas of thermal collectors and photovoltaic modules cover the rooftops of the ark, providing heat and electricity from solar energy. Two CHP stations use the heat and power cogeneration principle to produce the electricity required to operate the heat pump and supply warm water to the compound's swimming pool. Surplus electricity is fed into the national grid. The system is completed by a ventilation system, condensing boilers and several

storage units. Intentionally, a space has been reserved to accommodate a fuel cell heating system in the future. "How long will we be able to continue carelessly depleting the world's resources and burden the environment?" Gstrain asks, with an eye on the future. "Rising energy prices should have as little impact as possible on the community, at the same time it was intended to be ecologically sustainable."

The idea behind Arche Noah has now undergone the transition into daily routine. Not every aspect has been 100 per cent successful. Plans for a nursery school were dropped at the request of the town council; there are already sufficient places available in Imst. And it goes without saying that discipline is needed in every community. Gstrein has discovered that this requires purposeful facilitation. He has to put things in order and issue reminders occasionally. Although this has proved more difficult than he expected, he is still happy to have been able to turn his vision into reality. "Other people may want to copy the idea. I would like that."





Former businessman Karl Gstrein and his family have transformed the vision of a socially and ecologically sustainable residential community into reality with Arche Noah.



Implementation of the Arche Noah project took around seven years. Investments amounted to a total of over €5 million. Arche Noah relies on renewable energies, with more than 20 solar collectors on the ark rooftops supplying heat and electricity for the building complex.

*“Arche Noah gave us an opportunity to demonstrate the strengths of the Vaillant Group as a full-range supplier.”*

INTERVIEW  
MANFRED CEPLECHA  
HEAD OF SALES VAILLANT GROUP AUSTRIA

#### **Mr Ceplecha, what significance does the Arche Noah project have?**

Arche Noah is a lighthouse project. The owner was looking for something special and was very open-minded on the subject of energy efficiency. Mr Gstrein wanted to use the highest possible proportion of renewable energy to supply the Arche Noah complex. As far as we are concerned, the project was important because it gave us an opportunity to demonstrate the strengths of the Vaillant Group as a full-range supplier.

#### **Did it have the power to radiate to the outside world as well?**

Yes, the project has had a strong impact on the outside world, where it has been the subject of discussions and articles. The subject has even been taken up by the media on several occasions – which we appreciated, of course. Projects like this help us to demonstrate the technical possibilities for an ecological and energy-efficient heating revolution. This is invaluable because people are still not giving enough attention to energy consumption in buildings and the energy-saving potential that is wasted as a result.

#### **What challenges did this project pose?**

The combined system is unusual by virtue of the parallel operation of CHP units, a geothermal heat pump and a thermal solar installation. The main challenge was to network the components to produce an optimum integrated system in order to achieve maximum possible energy efficiency. It was important

to establish a proper order in the control system to give priority to the renewable energies. A system with such complex networking is by no means commonplace. We therefore became involved in the project management and appointed a technical coordinator. The latter developed the concept together with the installer in charge and later put it into practice.

#### **What do you think was the deciding argument in favour of Vaillant?**

Mr Gstrein had established good contacts with the installation company contracted to perform the work. Our excellent management and support network for HVAC partners, particularly including the field sales team, brought us together. The company also carried out the planning. This meant that we were able to provide direct support and present our strengths. These essentially included the broad product spectrum, our solutions on the basis of renewable energies and our service concept, which is specifically aimed at supporting installers.

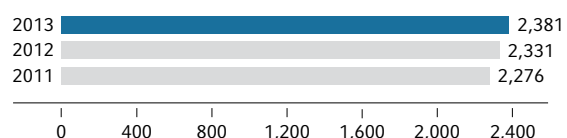
#### **You emphasised the close connection to HVAC tradespeople. Is that unique to Austria?**

It goes without saying that the wholesalers are tremendously important to us in Austria. But there is also a tradition of working with the HVAC specialists directly. We have established very close contacts with installers and therefore receive a great deal of feedback. We are the first point of contact for any issues relating to support, planning and design that go beyond normal day-to-day business. As was the case with Arche Noah.

# THE VAILLANT GROUP IN FIGURES

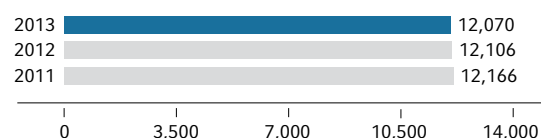
## Sales

€ million



## Employees

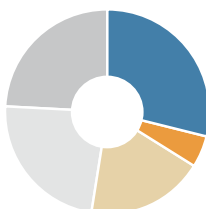
Headcount



## Sales by regions

€ million

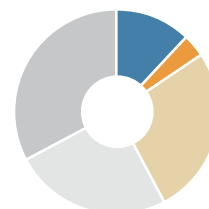
Northern Europe	694
Central Europe	574
Southern Europe	551
Eastern Europe	445
Rest of World	117



## Employees by regions

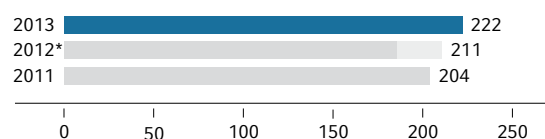
Headcount

Northern Europe	1,446
Central Europe	3,943
Southern Europe	3,009
Eastern Europe	3,222
Rest of World	451



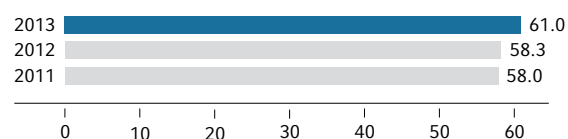
## EBIT

€ million



## Efficient and green technologies – share of product sales

%



\*€186 million after exceptional items







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