

HEAT PUMPS TODAY

ESSENTIAL INFORMATION FOR INSTALLERS   

**NATIONAL
ACR & HEAT PUMP
AWARDS
2023**

**DATE FOR
YOUR DIARY**
22nd JUNE 2023
THE MIDLAND
MANCHESTER

EHS Mono HT Quiet

SAMSUNG



www.acrjournal.uk/heat-pumps

A photograph of a modern building facade with large glass windows and a balcony. The text is overlaid on a dark grey section of the facade.

beautiful.
Simply installed.
quiet.
innovative.
sustainable.

The next generation of heat pumps: The new Vitocal 150-A

With a flow temperature of up to 70°C, the new Vitocal 150-A is ideal for retrofits. It achieves its high efficiency by using R290 (propane) refrigerant, which is particularly environmentally friendly with an ultra low global warming potential of 0.02 (GWP).

The compact design saves up to 60 percent of the space required and reduces installation time by up to 90 minutes, compared to conventional heat pumps.

www.viessmann.co.uk/vitocal

Simply a heat pump.
Simply Viessmann.



Roll on 2023

As I write this, I'm reflecting on the year we've had. It would seem that on the whole the Heat Pump market is booming. Supply issues are stabilising, training is at the forefront and project numbers are increasing. Going forward, the opinion is 2023 will be much of the same, but with more focus on how installers can educate clients on financial options. If you feel there are further challenges ahead then please do get in touch, I'd love to hear your thoughts.



This issue has some very positive news; Businesses expanding with moves to larger premises, introductions of training centres and factories expanding and increasing their product lines. Net Zero is still a hot topic, with the Heat Pump Association talking about its pathway for how to achieve 1m heat pumps per year by 2030. Entries are now OPEN for the National ACR & Heat Pump Awards, held in Manchester on the 22nd of June. Deadline 27th of March 2023.



22nd June 2023

16 Peter Street, Manchester, M60 2DS

Due to the huge success of this event, the organisers have now reduced the number of categories to ensure additional networking time on the night. Please visit www.acrjournal.uk/national-acr-heat-pump-awards for the full list.



Editor

Juliet Loiseau MInstR
Julietl@warnersgroup.co.uk

Multimedia Sales Executive

Robyn Teague
 01778 395029
robyn.teague@warnersgroup.co.uk

Editorial Design

Ady Braddock

Advertising Design

Natalie Fraser

Production

Sue Ward
 01778 392405
production@warnersgroup.co.uk

Publisher

Juliet Loiseau CompCIPHE/MInstR
 01778 391067
julietl@warnersgroup.co.uk

Published by:

Warners Group Publications Plc
 The Maltings, West Street,
 Bourne, Lincs, PE10 9PH
 01778 391000
 01778 394748
www.warnersgroup.co.uk
 © Copyright 2022



CONTENTS

07 Industry News	Case Studies
10 Heat Pump Association	22 Retrofit with eco-friendly results
Advertorial	22 Q-Ton hits the spot
12 Hydratech introduces new Service Division	23 Aston University turns to low carbon hot water
Out & About	24 The homes of the future
13 Hamworthy Heating's Heat Pump Launch	Opinion
Women in the Heat Pump Industry	26 Bruce Boucher talks about how the Heat Pump is truly in Vogue
16 Harriet Evans discusses her love of Heat Pumps	Events
Training	04 The National ACR & Heat Pump Awards – Entry deadline 27th March 2023
18 What do about £8000 shortfall	28 RACHPSkills UK – Luke Haile strikes gold in the finals
District Heating	Changing Faces
20 Keeping heating prices affordable and stable	30 Who has moved where

ENTER NOW! **ENTRY DEADLINE**
27th MARCH 2023

NATIONAL
ACR & HEAT PUMP
AWARDS
2023
22nd JUNE

THE MIDLAND

16 PETER STREET, MANCHESTER, M60 2DS



To book and enter NOW visit www.acrjournal.uk/information/national-acr-heat-pump-awards
or email Hayley Comey on hayleyc@warnersgroup.co.uk

NACR&HP AWARDS 2023 CATEGORIES

- 1 CONTRACTOR OF THE YEAR
- 2 AIR CONDITIONING PRODUCT
- 3 REFRIGERATION PRODUCT
- 4 AIR CONDITIONING PROJECT
- 5 REFRIGERATION PROJECT
- 6 TRAINING PROVIDER
- 7 WHOLESALER/DISTRIBUTOR
- 8 HEAT PUMP INSTALLER
- 9 HEAT PUMP PRODUCT
- 10 GROUND SOURCE HEAT PUMP PROJECT
- 11 DOMESTIC AIR SOURCE PROJECT
- 12 NON-DOMESTIC AIR SOURCE PROJECT
- 13 ACR & HEAT PUMP ANCILLARY PRODUCT
- 14 RACHP WOMAN OF THE YEAR
- 15 PHIL CREANEY'S ACR CHAMPION

SPONSORED AND
SUPPORTED BY



climate, home, comfort

That's Clivet

www.clivet.com



Clivet heat pumps:
choose performance, savings and efficiency for your home

Climate, Home, Comfort, That's Clivet



Get ready for net zero and diversify your business with OFTEC's air source heat pump training

The assessments will consist of three options:

OFT21-504A - Installation, commissioning and servicing of air source heat pumps	AVAILABLE NOW
OFT21-504D - Design of heat pump systems	AVAILABLE NOW
OFT21-504G - Installation, commissioning and servicing of ground source heat pumps	COMING SOON

The assessments are modular and can be taken individually or combined as required. There are four modules - core, air source, ground source, and design. The core module is mandatory for each assessment.

Contact your local OFTEC approved training centre to book your place!

www.oftec.org




TOSHIBA

FUJITSU
AIR CONDITIONING


Heat Pump Design &
Distribution Sales across the UK

www.cdlweb.info



Company opens new renewable energy training centre

A UK supplier of heat pumps has opened its first national training centre to meet the rising demand from businesses and householders moving to renewable energy technology. Karbon Homes is just one of the organisations which will take advantage of Go Geothermal's new training centre in Cold Hesledon, Seaham. The housing association, like many other businesses, is now seeking to install renewable energy technology in its new and existing properties as part of the Government's move to make the UK carbon neutral by 2050. This includes air source heat pumps and Go Geothermal's training centre will enable heating engineers to learn how to install the pumps. The training centre - the first of several planned in the UK - will feature heat pumps supplied by Go Geothermal through its CTC brand.

Engineers will get hands-on training and experience in the installation of the CTC heat pumps and at the end they will receive the nationally recognised BPEC Level 3 Award Installation and Maintenance of Heat Pumps qualification. The courses will be delivered in partnership with Robinsons UK, a national technical training academy. Further training centres in Exeter, Worcester, Blackpool, and Glasgow are also scheduled to open in 2023.

www.gogeothermal.co.uk



STIEBEL ELTRON to strengthen its impact in the UK heat pump market as German branch expands its Holzminden warehouse



STIEBEL ELTRON UK is looking forward to meeting heat pump demand across the country as the company's German headquarters expands its logistics centre in Holzminden, Germany.

The expansion sees the beginning of their 600-million-euro investment into increasing capacity, research and development, and creating new jobs in Germany. The new warehouse extension and investment will strengthen the UK branch's impact in the renewable heating market as the company's supply chain and product offering becomes stronger, Mark McManus, STIEBEL ELTRON UK Managing Director said.

"STIEBEL ELTRON's German operations has seen huge demand for heat pump systems, prompting the company's investment. 154,000 units were installed in 2021 - these are 34,000 more than the year before."

Meanwhile, STIEBEL ELTRON UK has also seen a rise in demand, with the manufacturer reporting a 70 percent increase in heat pump sales, when compared to last year.

www.stiebel-eltron.co.uk



www.acrjournal.uk/heat-pumps

New home for north east distributors

North East-based partner companies Secon Renewables and AUK Distribution are targeting further growth and industry success with the move to a new home in Sunderland.

The new head office and warehouse, at Unit F, Colima Avenue, Sunderland SR5 3XB, is almost five-times the size of their previous base at 30,000 sq.ft and was officially opened on Friday, October 14th, by The Rt. Hon. Jake Berry MP, Conservative Party Chairman and former Minister for the Northern Powerhouse.

Secon began life as a solar thermal company in 1998 and has since diversified to become one of the biggest specialist heat pump distributors in the UK. Its product range boasts the latest in solar thermal technology alongside heat pumps, biomass ancillaries, air conditioning and under floor heating.

AUK Distribution has grown to become one of the leading providers of heating, ventilation, and air conditioning (HVAC) products in the UK, offering solutions



for almost all air conditioning and close control applications. The two businesses have worked together since 2017 and formally joined forces in 2020.

Earlier this year, Secon and AUK picked up two major honours in a prestigious

national industry awards competition.

In a repeat of last year's success in the Wholesaler / Distributor of the Year category at the National ACR & Heat Pump Awards, the independent judging panel recognised how an increased product offering, large stock undertaking and improved technical support across both businesses had helped customers to operate as seamlessly as possible through a very difficult trading period.

There was further reason to celebrate when Secon, alongside UK Alternative Energy, won the Air Source Project of the Year award for a project at a luxury home in Lincolnshire which delivered significant saving in both operating costs and emissions.

The businesses are built around trade-only webstores and a single distribution warehouse which services national sales with next-day delivery.

www.aukdistribution.com

www.seconrenewables.com

Labour leader visits Vaillant HQ

Labour leader, Sir Keir Starmer, visited leading boiler and heat pump manufacturer, Vaillant, HQ in Belper, to see production of its low carbon technology in action and gain a clearer view of how government and industry can work in partnership to ensure the UK can successfully transition to low carbon technologies.

The tour began with the Labour leader viewing the company's new heat pump line. He took a keen interest in the variety of new skills needed to successfully work on the new production line as well as the job opportunities created. He spent time chatting to employees who had retrained or upskilled to work on the new line and discussed what opportunities this had opened up for them. Sir Keir was interested to learn that these new skills had been developed via a partnership training programme between Vaillant and Chesterfield Technical College.

He was also keen to speak with those new to the industry and went on to meet several apprentices, graduates and interns from across the business to discuss how they felt about being involved in this exciting transformational period.

During the visit there was also an open discussion between Sir Keir and the Vaillant management team, regarding how government and industry can work together to develop and support a number of pathways to bridge the skills gap and to ensure that the support is there to enable the right investment in production capacity that will get the UK closer to the net zero targets set.

Sir Keir Starmer, Leader of the Labour Party, said:

"The transition to low carbon technology is an opportunity to be seized; for business, the creation of jobs, the ambitions of our

young people, and to achieve energy security to keep bills down. It's been invaluable to see Vaillant's work developing heat pumps and advances in hydrogen.

"To truly grasp the potential benefits, we need innovative businesses like Vaillant, backed by a clear government mission and working in partnership. We're at a critical juncture for the clean energy sector, which if harnessed as the opportunity it is, will bring enormous reward to the whole country. It's been invaluable to see work underway and meet people involved in making this change possible."

www.vaillant.co.uk



Left to right: Steve Keeton, Henrik Hansen, Sir Keir Starmer, Jontham Reynolds

Grant UK's Head Office moves to larger premises

Grant UK has moved to new premises with the Company's Head Office, warehousing and Training Academy now based in Swindon, Wiltshire. The Company's new site includes offices and storage facilities that are three times larger than their previous premises, allowing Grant UK to continue to expand in the sustainable heating sector.

For over 25 years, Grant UK has been supplying award winning heating products and developing its range of support services for customers. During this time, the Company has significantly grown in size and after trading in Salisbury for a number of years, Grant UK moved to Devizes, Wiltshire where their sales, training, technical, marketing and distribution teams have been based since 2003. Nearly two decades on, Grant UK has undergone further expansion and has moved to a new site in Swindon which was formally opened on 3rd November 2022.

The new facilities in Swindon are considerably larger, totalling over 80,000sqft. In addition to providing greater office spaces and significantly increased on-site storage capacity, the new site has also enabled Grant UK's Training Academy to be expanded.

An integral part of the renovation project was sustainability and they have implemented numerous environmentally friendly measures throughout the site.

www.grantuk.com

Blenheim Estate Homes Plans to Build Britain's Biggest Rural Passivhaus Community



Blenheim Estate Homes is awaiting planning permission to build what is believed to be the largest rural development of PassivHaus standard homes in the UK.

The new community, in Woodstock, is planned to include in the region of 180 net-zero living homes that require little heating or cooling – resulting in a significant reduction in energy bills for future residents. 50% of the homes provided will be affordable.

The scheme is designed around people, and it incorporates large green open spaces, and will feature a mix of houses and apartments, private affordable rent, shared equity and homes suitable for first-time buyers in various sizes built using traditional local materials, to ensure, whilst future proofed and climate protecting, they are in-keeping with the historic Oxfordshire town.

New and existing green corridors will link the community to surrounding habitats

encouraging wildlife to flourish. Tree-lined roads, cycle paths and pedestrian connections are proposed, many of which will connect to the centre of Woodstock.

Secure community hub buildings, which will also act as additional car parking spaces, will be located within two minutes of everyone's front door and could also incorporate hub facilities for local 'hot desk' office working, home delivery lockers, fast electric vehicle charging and electric cycle hire. 🏠

Net Zero and the role of heat pumps: An available option for immediate heating decarbonisation

By Craig Dolan, European Business Development Manager for Vaillant

As we look at options to decarbonise our heating systems, it's fair to say some balance would be welcome in the increasingly polarised debate between hydrogen and heat pumps.

The truth is that all technologies have their place, what matters more than the choice of heat "engine", is correctly specifying and installing the heating system to optimise user comfort and maximise efficiency. Lowering flow temperatures, no matter the system is key and will allow almost any technology to service heat demand more efficiently.

At Vaillant, we are developing hydrogen boilers for the future. Whilst the roadmap is currently being developed for the hydrogen rollout, we advise customers looking to decarbonise their home heating today, to fit the here and now technology - heat pumps.

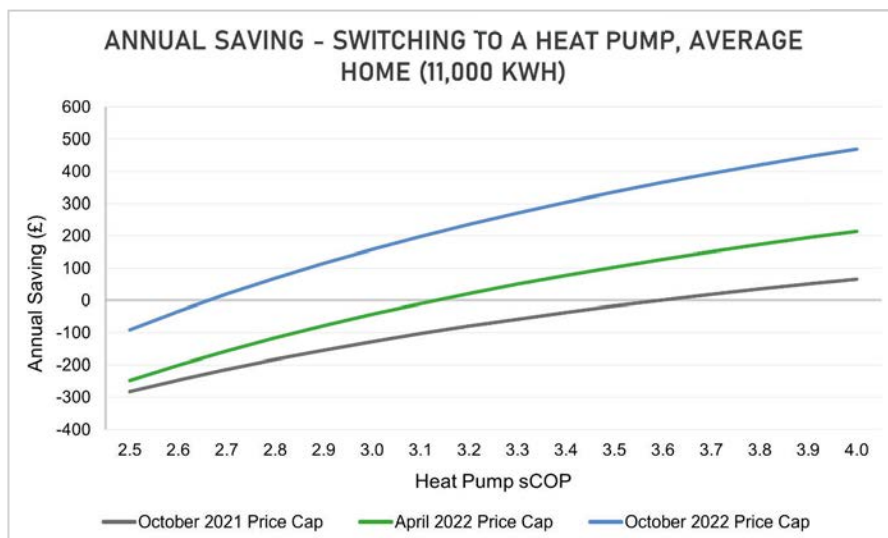
All things hydrogen

Looking at the relevant trade bodies, Hydrogen-UK, the largest trade association for all things hydrogen, calls for 1m homes to be heated by hydrogen boilers in total by 2035. On the other hand, the Heat Pump Association (HPA) has set out a clear and detailed pathway for how 1m heat pumps per year by 2030 could be achieved, sweeping up the government's target of



Craig Dolan, European Business Development Manager for Vaillant

600,000 per year installed by 2028. The Climate Change Committee corroborates this as its lowest cost decarbonisation pathway, envisages 1m heat pumps being installed annually (5.5m in total) by 2030 and 12m in total by 2035. By 2050 all heat demand is met by low-carbon sources, of which 52% is heat pumps, 42% is district heat, 5% is hydrogen boilers and around 1% is new direct electric heating. Taking all these projected statistics into account, it is clear that heat pumps are set to dominate the transition for at least the next full cycle of heat generator replacements, with hydrogen as an emerging option from the mid-2030s.



Source: Analysis by the Heat Pump Association, submitted to the Net Zero Review call for evidence, October 2022.



Installing best in class heat pumps brings its own rewards

With the NIBE Pro rewards scheme, you earn points when you install NIBE heat pumps. These can be redeemed against branded tools and workwear, or marketing materials, and you'll be first to know about special offers and competitions. As a NIBE Pro installer you'll also have access to our new Pro portal, best in class technical support and training, plus a broad range of consumables and ancillaries.

Web Portal • eLearning • Web Shop • Rewards Points Support & Training • Consumables & Ancillaries

Visit our website to find out more today.

ALTOGETHER BEST IN CLASS

NIBE.CO.UK



NIBE Pro



Focussing on heat pumps and their role in net zero, the HPA has recently published a weighty and evidence-based submission to the Net Zero review, which highlights independent sources validating that the switch to heat pumps over the next 10-15 years yields the lowest-cost pathway to net zero. Whilst acknowledging there remains an up-front cost difference, the running cost of heat pumps are becoming relatively attractive compared to boilers. As the cost ratio between gas and electricity aligns, the overall running costs of a well-specified and installed heat pump costs the same or less than a traditional gas boiler.

Well-performing heat pump systems can easily deliver SCOPs of 3.5 and above. As the chart shows, heat pumps can offer significant savings compared to fossil fuel heating looking at the current price caps in the market, savings can be made with a SCOP as low as 2.8. Therefore, consumers can save hundreds of pounds a year compared to a high temperature system.

The energy savings above may not always directly justify a consumer's outlay for a heat pump compared to a traditional boiler. However, in cases where a consumer does not see a compelling financial reason to invest in a heat pump, extensive

analysis points to heat pumps being the cheapest long-term option to society for heat decarbonisation once carbon costs are also included. This is because the next best options, to achieve the same carbon saving, are more expensive.

The consumer is not directly exposed to these carbon costs, but society (and therefore the consumer, as part of the population overall) pays for them in the end – whether that be through energy bills, taxes, or other increased costs due to government policy of one form or another.

Economics improve further

The HPA's own initial findings, to be published soon, indicate that once these carbon savings are included, the economics of a heat pump will improve even further than the above reference suggests, due to these recent price rises alone. This makes a strong case for a combination of regulation and subsidy to help this transition happen.

We need the UK Government to clarify in legislation, a precise date for the final phase-out of the sale of new fossil fuel boilers. Experience from the 2005 ban on non-condensing boilers suggests once this is written into law, industry will be effective at evolving the market, securing necessary investment, and arranging the installer training and supply chain needed to make the transition happen. More details on the HPA's proposed policy interventions, including those affecting installers, are published on the HPA's website.

To conclude, heat pumps are available now for mass-market deployment, are tried and tested technology, and already mass-produced for a worldwide market that has already installed around 190 million units. They are, in the view of several peer-reviewed independent academics, the lowest cost decarbonisation option for heating, and the transition can absolutely happen over the next decade with the right supporting policies in place. 🏡

Info box

The Heat Pump Association welcomes comments and thoughts on its views – please send them to media@heatpumps.org.uk



Hydratech introduce Services division to provide expert support for heat pump systems

The Fluid Management Services (FMS) team provides an extensive range of on-site services for customers installing, commissioning, operating, or optimising ground source heat pump systems.

Since 1998 Hydratech have specialised in the formulation and manufacture of high-performance heat transfer fluids, based on glycols, brines, alcohols and refined vegetable extracts. From world-first agritech projects to district heating schemes and major manufacturing plants, Hydratech's Thermox range of fully inhibited heat transfer fluids with antifreeze function have been commissioned in thousands of ground source, air source and geothermal heat recovery systems.

Following consistent demand for technical advice and engineering support, Hydratech recognised the need to take things a step further and provide 'hands on' heat pump system filling, flushing, remediation and compliance management.

Hydratech's FMS division provides expert support to remediate issues associated with ground source heat pump systems, including:

- Biological fouling
- Flow rate faults
- Pressure losses/Leaking
- Drops in efficiency and COP
- Low glycol levels
- Insufficient inhibitor protection/ water quality

FMS specialist services include:

- Flushing & pre-commission cleaning of new systems
- Filling, venting and pressure testing
- Fluid testing & analysis
- Reconditioning & remediation of contaminated systems
- Design, manufacture and installation of side-stream filtration
- Inhibitor treatment of water-based heat transfer fluids

'By combining expertise in water treatment chemistry, fluid thermodynamics and mechanical engineering,



Hydratech FMS division delivers a fully integrated, holistic approach to heat pump systems management. This in-turn maximises the potential for optimised performance, reduced operational costs and significant return on investment gains.'

Luke Hickson, Hydratech FMS Director

Thermox DTX Heat Pump Antifreeze

Launched in 2010, Thermox DTX non-toxic antifreeze represents a major step forward

in heat transfer and pumping efficiency, providing >10% improvement in CoP, ROI and heat recovery when compared with propylene glycol-based fluids, due to lower viscosity, higher thermal conductivity and reduced volume required to achieve the same freeze-protection.

Specified by the UK's largest heat pump contractors, installers and designers, Thermox DTX has been commissioned in thousands of commercial and domestic heat pump systems by industry leaders such as Kensa, Nu-Heat and Ideal. 🏠



For more information on Hydratech's range of services and products call **01792 586800** or visit **hydratech.co.uk**

Hamworthy Heating's Tyneham Heat Pump launch was a roaring success at Mercedes-Benz World

Despite thundering rain and showers overhead Hamworthy Heating, a British manufacturer and supplier of commercial heating and hot water products, officially launched its Tyneham Heat Pump range on Tuesday 15th November at an exclusive event attended by key customers and media.

It's a first

The event was held at Mercedes-Benz World in Surrey, where guests received a presentation on Hamworthy Heating's first ever air source heat pump and had the opportunity to get hands on with the product and interact with the Hamworthy Heating team.

The new Tyneham Heat Pump range offers superb operational reliability and

outstanding performance. The monobloc air source heat pump is the latest product offering from Hamworthy Heating and features a co-efficiency of performance (COP) rating of up to 4.85, to provide efficient, low-carbon heating. It is also lightweight and compact.

The seven models in the range boast six nominal outputs of between 14 to 70kW, which can also be cascaded to achieve

higher outputs in larger installations. Incorporating an inverter control compressor to accurately match the heat demand, R32 refrigerant also offers a low global warming potential.

Strategy, policy and funding

At the heart of the Tyneham Heat Pump launch event, Chris Caton, Product Director – Commercial at Groupe Atlantic UK, ROI & North America provided an informative presentation in Brooklands Hall. It covered the decarbonisation of heating and diversity of products and technologies on the market, including electrification, heat networks and hydrogen. Also looking at strategy, policy and funding information, the presentation provided an in-depth approach to heat pumps and electrification and highlighted the features and benefits of the Tyneham Heat Pump range. This was shortly followed by a Q&A and the opportunity for guests to get hands-on with the new range of Tyneham Heat Pumps.

A visit to Mercedes-Benz World wouldn't be complete without experiencing some of the thrills on offer so, after a quick pit stop to re-fuel, Hamworthy Heating guests got to experience the excitement



'Hot Lap' passenger ride



About Blygold

Blygold is an innovative and forward-thinking company offering unique and sustainable high-quality protection against corrosion. With over 40 years of experience, we have the know-how and state-of-the-art products and techniques to solve any corrosion problem.

What Are Heat Pumps?

Heat pumps are systems that move heat from one place to another by using a compressor and circulating a structure of liquid or gas refrigerant. Through this, the heat is extracted from outside sources and then pumped indoors. Pumping the heat tends to use a lot less electrical energy than typical methods of turning electricity into heat. Plus, during the summer months, the cycle can be reversed and the unit will act as an air conditioner instead, making it multi-functional.

The use of this particular energy source has been a lot slower in the UK than the rest of Europe. This is due to the fact that the government only recently introduced new schemes to make switching to green energy both easier and a lot more affordable. These moves have helped to increase the popularity of all renewable energy technology among the British public, and so it is starting to take off.

Heat pumps are actually the most efficient alternative to fuel, oil, and electrical systems when it comes to the process of heating and cooling. They supply a larger capacity of heating and cooling than the amount of electrical energy that is used to run it. In fact, the efficiency rate is able to go up to as high as 300%.

Advantages of Heat Pumps

- Heat pumps are much safer than systems that are based on combustion.
- They are cheaper to run than oil and gas boilers.
- The system reduces your carbon emissions & it has an efficient conversation rate of energy to heat.

Blygold coatings can help with...

- Reducing maintenance.
- Protecting the casing as well as the coil blocks.
- Extending the life of the equipment.
- Energy saving.

**For more information,
contact us on 01895 259346
or ben@blygolduk.com**





Chris Caton, Product Director – Commercial at Groupe Atlantic



Mercedes-Benz-World simulation zone


of the circuit with a ‘Hot Lap’ passenger ride. In a race for first place, guests were also invited to take the wheel of a racing car and compete in the simulation zone. During the afternoon, there was also an opportunity for guests to look around the three floors of attractions and fascinating displays, legendary vehicles, and the iconic Mercedes-Benz F1™ cars on display.

“The event was a great opportunity for our customers to get an introduction to our Tyneham Heat Pumps and learn more about this new range from our Hamworthy technical experts. With customer satisfaction at the core of everything we do, this event was a perfect opportunity to launch the Tyneham and have some

fun whilst doing so”, commented Ian Roe, Director and General Manager for Hamworthy Heating.

Combined for hybrid heating

Designed with ease of service in mind, the new Tyneham Heat Pumps from

Hamworthy Heating are available to purchase with variable options such as flexible hoses, anti-vibration feet, buffer tanks and externally mounted control units. The Tyneham Heat Pumps can also be combined with Hamworthy modular boilers for a hybrid heating system. 



Above: Racing car simulator winners

Left: Tyneham Heat Pumps

Info
www.hamworthy-heating.com

WOMEN IN THE HEAT PUMP INDUSTRY

Harriet Evans, newly appointed Renewables Director at Baxi, discusses her love of heat pumps, why she switched from primarily air conditioning to focus on heating, and the challenges the industry faces

How did you get into the heat pump industry?

It was a comment from my dad, a chartered surveyor, that set me off on what at the time may have seemed an unusual, male-dominated career path. I'd always loved maths and physics and was studying hard for my A levels at the time, when he offered me the worst possible advice. He suggested I shouldn't worry about the exam results as I'd probably just end up getting married anyway. Well, it was like a red rag to a bull and I was determined to prove him wrong!

I'm pleased to say that the exams went well, and I went on to study Building Services Engineering at Loughborough University. I might have been the only woman in what was very much a man's world, but I didn't let that bother me. In fact, truth be told, I rather enjoyed being a bit different. I'm proud to have mentored lots more amazing women into the industry since then.

And the rest, as they say, is history. I've now been in the construction industry for over thirty years and I can honestly say that I love it as much today as I did when I started out.

What was your first job?

My first job was as a Building Services Consultant for RW Gregory and Partners. I enjoyed putting my design skills to use but soon realised that my interests lay more in the commercial side of business. So, I set out to hone my sales skills in the heating and cooling industry, first at Trane UK, then at Space Air Conditioning.

In 1999, I joined Mitsubishi Electric Living Environmental Systems, starting as a Sales Engineer and working my way up to



Corporate Solutions Director. Nearly twenty years swiftly flew by! My team worked closely with UK end users, providing education and advice on the best ways to manage their commercial estate effectively and efficiently. One of the aspects I loved most about my time at MEUK was coaching and mentoring – helping people enter the industry, developing in them a similar passion for carbon reduction and the all-important self-belief and confidence that they can make a difference.

This led to my next contract position as Sales Director for a collaboration between Mitsubishi Heavy Industry (MHI) and Beijer Ref UK. In this role, I was challenged with developing a new external and internal sales team to support the implementation and growth of air conditioning and CO2 air source heat pump sales in the UK. Helping customers realise that saving energy and carbon is straightforward and de-mystifying heat pump technology is so rewarding.

What does your current role involve?

I've recently joined Baxi as their Renewables Director, tasked with helping the business to accelerate heat pump sales within the residential and commercial markets.

As a well-established heating manufacturer, Baxi is at the forefront of the energy transition and is committed to developing and offering affordable low-carbon heating and hot water solutions to its customers.

And while it may currently be better known for its boilers, in fact, Baxi already boasts a strong and expanding heat pump portfolio for both the domestic and non-domestic sectors. With vast experience and technical expertise within the company (which has some of the industry's best-known brands including Remeha, Heatrae Sadia and Andrews Water Heaters) and the wider BDR Thermea Group, it's a fantastic time to step in and take the reins of the renewables division.

I'm looking forward to tapping into my leadership skills, sustainable focus and, of course, my knowledge of air source heat pumps to support the Baxi heat pump sales drive.

I can honestly say that I am relishing the challenge of turning the perception of Baxi from a boiler manufacturer to a serious player in the heat pump business! There are numerous loyal Baxi installers and clients crying out for reliable and honest advice on how to make the switch.

What do you see as the challenges facing the industry?

Training and education are the main challenges we face, in particular getting traction with all current installers to support the energy transition.

The government has set an ambitious target of installing 600,000 heat pumps a year by 2028 to bring low-carbon heating to the mass market. Of course, it's going to be a challenge, but we're certainly up for it!

We know it's essential to ensure that people make the switch to heat pump technology so that, as a nation, we achieve our sustainability goals and slow climate change. One of the best ways to do this is to get contractors and installers to believe in heat pumps and understand the technology so that they can, in turn, educate end users.

Heat pumps are a not a difficult technology, but you do need to think of them as part of a system rather than just a box. There's plenty of scaremongering about systems not working effectively aimed at homeowners and estate managers. Comfort is all down to correct design and system application, so it's vital that we educate installers properly and ensure that each installation is designed, commissioned and handed over correctly. Baxi has a huge network of in-house engineers to turn to should any system need further attention too, giving further peace of mind if required.

What would you say to other women who are considering coming into the heat pump industry?

I'd say, just do it! It was true for me over thirty years ago and it's still true today. It's a fantastic industry filled with some real characters and plenty of variety in terms of roles.

For me, more recently, it's become more of a personal goal too. I've chosen to focus on the heating sector as I want to

help both installers and clients to make the switch and take responsibility for tackling the combined energy, climate and cost-of-living crises with more energy-efficient, renewable heat pump technology. If you are similarly environmentally conscious or climate-minded, you'll find it hugely rewarding.

Outside of work

I like to keep busy in my free time since my two sons have flown the nest. I have a new furry baby, Eric, a terribly behaved Jack Russell who keeps me on my toes. I'm also

a keen sailor and a slowly improving yogi!

I love to keep my brain active too. During lockdown I completed my NLP Master Practitioner qualification. Part of this included studying an expert in order to learn a new skill. I re-taught myself how to do the front crawl properly (previously I was swimming like an old lady). To complete the challenge, I then swam the length of the English Channel in my local pool and raised over £1,200 for a local cancer charity. 🐶



Info

Harriet Evans is Head of Renewables at Baxi.

www.remeha.co.uk/products/heat-pumps

www.baxi.co.uk/new-build/products/air-source-heat-pumps



What Installers can do about the £8,000 shortfall left by the Government's heat pump scheme

Many households will still need to pay around £8,000 to invest in a heat pump despite initiatives such as the Government's Boiler Upgrade Scheme providing £5,000 subsidies. Here, Ryan Harmer, Managing Director of hiber, explains why it is becoming increasingly critical for heating experts to provide financing choices to clients, and details necessary procedures for sole proprietors and SMEs.

The objective of installing 600,000 heat pumps annually by 2028 is unquestionably a huge and ambitious one, especially considering that the median heat pump installation costs around £13,000. Even while government incentives of up to £5,000 exist to help homeowners with upfront expenditures, a growing body of research indicates more work must be done to promote uptake, particularly when it comes to funding.

As technology has improved over the years, it is becoming more affordable for homeowners to install a heat pump



Ryan Harmer

on their property. While heat pump costs have shrunk somewhat, they are still prohibitively expensive for most households. A great many homeowners would have to pay around £8,000 even with the Government grants, however, research has shown that almost one third of UK residents have less than £1,000 in savings. This means that making a purchase at that price is all but impossible.

The Government's annual heat pump installation goal has come under scrutiny recently, partially because financing choices for consumers are lacking in this



area. Industry collaborations are required to remove barriers currently in place, and heat pump purchases can be made more easily if installers and their customers have a choice of payment options. Without this – and considering the cost-of-living crisis – the growth of the heat pump market will slow down, stopping installers from profiting from heat pumps and decelerating the nation's progress towards net zero.

The Financing Necessity

The heat pump market has already experienced tremendous growth in the past decade. Though a sizeable portion of this growth is attributed to government-sponsored programmes, including the now-inactive Renewable Heat Incentive, the market is anticipated to continue expanding.

These predictions are based on the approximately 47,000 heat pumps installed in residential buildings since 2010 and the well-publicised government goal for 2028. Additionally, the cost-of-living crisis and the general trend towards products that save money and energy is making the technology more popular. Where once, heat pumps were exclusively used for commercial and industrial applications, they are gaining popularity in the residential market too.

Although there is no shortage of data demonstrating the cost-effectiveness of heat pumps, many homeowners may find replacing their conventional boiler too expensive in the event of a breakdown. Upgrading to an air source heat pump without access to financing is unworkable for most. Installers who can provide financing have a clear advantage, especially given that 72% of families already say that the cost is a key obstacle for most home renovation projects. With the cost-of-living crisis ongoing, this number is likely to rise over the coming months.

Greater access to financing is essential for customers wanting heat pump technology for their home, given purchasing and installation cost. Without more flexible, longer-term payment options, installers will not be able to take advantage of the market potential.

Installers' Possibilities

Independent installers who can provide consumer financing for heating installations can potentially advance



the industry toward the government's Net Zero goals, alongside lessening the impact of homeowners' rapidly rising energy bills. They can also take on more projects from the anticipated heat pump installation boom. Government assistance presently available may help encourage energy-efficient heating, but these advances can only be accomplished if more installers offer customers accessible payment options.

While some independent installers might be able to provide these kinds of services, historically only major national companies with the necessary financial credentials, like British Gas, have had access to consumer loan packages. Thankfully, there is now an easier way for customers to pay for a heat pump installation that would have otherwise been out of their price range.

Partnership Potential

Industrial partnerships are another vital element of residential uptake of heat pumps. Recently, it was made possible for heat pump installers to provide flexible payment options thanks to a partnership between Daikin and hiber. Because it allows consumers to make significant upgrades to their home heating system without the upfront payments, this alliance has the potential to fundamentally alter how households access and pay for heat pump technology.

If an installer is licensed by Daikin, they can offer their customers payment options for heat pump and air conditioning installations accessible via the hiber platform. This partnership is a significant

and much-needed step towards the UK's heat pump installation goal, but there is still more to do.

Consumers must be able to stretch the cost out over several years if the government is to meet its aim of installing 600,000 heat pumps by 2028. The way the heat pump market is trending shows that many homeowners are willing to invest in a heat pump but lack the financial means to do so. This puts a massive burden on the industry to find innovative new ways to finance the technology and improve affordability for homeowners. Once these financing options are available, uptake of heat pumps will undoubtedly increase.

This collaboration between companies is a critical step in the right direction for making heat pumps an affordable option for households. Making a change now is especially advantageous because of government incentives, such as the Boiler Upgrade Programme and the current 0% VAT on heat pump installations.

Although heat pump technology has a lot of potential, the industry will not thrive if prospective customers cannot afford it. By working with hiber, installers may establish themselves as a major resource for homeowners looking into environmentally friendly heating solutions or ways to reduce energy bills. Heat pumps will become more and more popular as the nation intensifies its response to the climate issue, so installers should start preparing now to meet future needs. 🏠

Info
www.hiber.com

District Heating – Keeping heating prices affordable and stable

By Lee Hermitage, EMEA Marketing Director for Advanced Materials at Honeywell

In the blink of an eye, 2022 will soon be over. When we reflect on the past year, perhaps all the tumultuous events will spur the world on to adopt greener, cleaner energy. Extreme climate change is just one of the stark reminders that we must act with urgency.

When it comes to energy supplies, this year has been filled with uncertainty and instability of where our energy might come from and how much it will cost, but it doesn't need to be this way. With the demise of fossil fuels, electrification is the only way, and adopting renewable energy is a must.

There has never been a better time to consider the use of heat pumps which can help with keeping costs down. They are the future, and a potential energy crisis lifeline because they provide a greener, more stable, and reliable source of energy.

At a domestic level, heat pumps are the most sensible solution as they can be between 50%–80% renewable, using energy from an external environment to produce heat. If you compare that with a normal direct electrification approach, for example the boiling of an electric kettle, putting one unit of electricity in to generate less than one unit of heat. By comparison, for every unit of electricity that you put into a heat pump, it generates between three and five units of heat. Alternatively, large scale heat pumps can be used to provide hot water to a large number of homes and buildings through a district heating network.

The Government must act now

If world events and the uncertainty, they have delivered to the energy markets were not catalyst enough, the annual publication of the UN's SDGs (Sustainable Development Goals) provides a constant reminder that we must act now to avoid yet more damage to our fragile planet.



Lee Hermitage

There is consumer pressure too. In a recent poll of 2,000 people, commissioned by The John Lewis Partnership, 77% believe the new government should do even more than their predecessors to protect the United Kingdom from global warming.

While initial capital outlays needed to support our heating system evolution will be significant, they will ultimately pay for themselves many times over through reduced energy costs and quality of life improvements.

The government has offered some help to accelerate the uptake of heat pumps on a domestic and district level. The recent news of the government's plan to fund district heating network projects across South England is a positive step, albeit a small one. The fund of £54m awarded to four heat network projects in England will mean that approximately 28,000 homes and businesses will be shielded from costly fossil fuels, helping reduce energy bills and the country's energy independence. According to the government, the annual carbon savings from these four projects is the equivalent to taking more than 5,500 cars off the road or the average household use of over 400 kettles.

As well as the district heating fund, the government also set aside £450m to encourage the installation of electric heat pumps by homeowners over the next three years as part of Britain's efforts to hit its 2050 net-zero targets. It amounts to a £5,000 grant, awarded to 90,000 households over three years. However, that equates to only 30,000 homes a year. In our view, this is an inadequate incentive to shift use away from traditional gas



boilers, which heat more than 85% of UK homes. Much more needs to be done and offering interest free loans would also help drive adoption.

Honeywell supports ambitious investment and incentive programmes to grow the number of district heating networks which will go a long way to helping Britain achieve its net-zero ambitions. This is particularly as high-efficiency electric heat pumps can achieve efficiencies of 500% or more. By comparison, a new gas boiler only operates at around 90% efficiency, thereby producing less than 1kW of heat per kilowatt of electricity.

Proof is in the pudding

District heating systems are nothing new, they have been around for 150 years and there are many great examples of how they're working around the country, yet they account for roughly 8.5% of global heat consumption. For example, there are

more than 17,000 networks in the UK with nearly 500,000 connections. Together they meet approximately 2% of the UK space heating requirements, but that number could increase to 15-18% by 2050.

Today's high-efficiency heat pumps are also even more environmentally-friendly, thanks in part to the use of low-global-warming-potential (GWP) refrigerants, such as Honeywell's Solstice® ze (R-1234ze). Therefore, adding heat pumps as part of the mix in terms of heating must be a solution that dominates the heating market going forward.

Critical for the average householder though is that district-level heat pumps can be set up so that the consumer pays only for the heat they have purchased from the pump and not for the initial setup and installation costs, which is proving a barrier to many households.

The beauty of heat pumps is that they can easily be scaled and can be applied in a modular approach. There are no limits

to how district heating schemes can be applied. For example, you could have a very large heat pump, which could be providing heat to homes, commercial office blocks and even multiple municipal buildings and hospitals in an effective way.

The UK has some great examples of district heating schemes that are working well. For example, the Council opened the Gateshead Energy Centre in 2017 to provide heat and power to the district energy network in the town centre and Gateshead Quays area. Initially, the scheme supplied public buildings and homes managed by the local council. However, the scheme has now grown, connecting more council buildings, depots and even leisure centres. In 2020, the first new build office was connected to the heat and power network and by 2023 the scheme will see further expansion. In addition, the Borough of Southwark in London has applied a very effective district heating scheme and Sterling in Scotland is already seeing significant cost savings for consumers.

Honeywell has invested more than one billion dollars in research, development and new capacity for its Solstice technology, having anticipated the need for lower-GWP solutions to combat climate change more than a decade ago. Our refrigerants were used in both the innovative Southwark and Sterling schemes and there are more planned. They are two fantastic examples of how creative thinking can be applied to generate more cost-effective heating schemes.

Time to challenge conventional thinking

As we reflect on the past year, it's clear that we need to challenge conventional thinking when it comes to heating our buildings and homes. District heating and electric heat pumps have a significant role to play in reinventing the home and building heating system that we have relied on for generations.

We must continue innovating in this area if we want to reduce our dependence on fossil fuels, achieve our ambitious carbon reduction targets, and provide everyone with access to space heating that is dependable, affordable and sustainable. Initial capital outlays will need government support while education will be key to making infrastructure changes to enable large segments of the population to realise the advantages of district heating networks using electric heat pumps. 🏠



Retrofit with eco-friendly results

By Niel Rumbold, GB Renewables Sales Manager

Warmflow has been keeping families warm across the UK & Ireland for over 50 years. With a state of the art 150,000sq ft manufacturing facility located in Northern Ireland and a sales & distribution office in Telford, Warmflow has been at the forefront of home heating technological innovation.

In this case study, we will focus on heat pumps where Warmflow has helped to significantly boost the energy efficiency of a historic rural house, with the retrofitting of a more eco-friendly and cheaper heating system.

The Warmflow Zeno air source heat pump was selected as the ideal solution to replace an existing oil boiler at the property – which dates back to Georgian times. The new Zeno heat pump provides heat for a space of around 2,000 sq. ft.

Installer Brian Graham recommended this heat pump as he felt it was one of the most efficient appliances in its class. Brian said: “The customer wanted the heat pump installed without a cylinder, so it only generates heat and not hot water.



Niel Rumbold, GB Renewables Sales Manager

I selected the AS02 model of the Zeno heat pump to meet the homeowner’s needs. “The existing oil boiler, which was around 10 years old, was located close to an outside wall. This made it reasonably handy to fit the new heat pump on the exterior wall, and we used the existing flue hole to fit the pipes, so we didn’t need to carry out too much additional work.”

GB Renewables Sales Manager Niel said, “The Air Source Heat Pump units can be easily integrated into heating systems, offer excellent energy savings and can help reduce the end user’s carbon footprint,” he added. “In this case, the homeowner wanted a more energy-efficient and environmentally friendly heating solution for her home, and she has expressed her delight at the results.

Controls

She also commented that the controller was extremely easy to use, with very little training needed. Underfloor heating had already been installed in the property, and heat pumps and underfloor heating systems pair together very well. This is because the underfloor heating requires lower flow temperatures of 35 degrees, meaning the heat pump in turn uses less electricity.”

Info
www.warmflow.co.uk

Q-Ton hits the spot

A London hotel has recently upgraded its hot water generation plant using the Q-ton air-to-water heat pump system from Mitsubishi Heavy Industries Air Conditioning Europe (MHIAE) supplied by Beijer Ref UK and Ireland, the UK’s leading refrigeration and air conditioning wholesaler.

The Citadines Holborn-Covent Garden London originally had gas-fired boilers, which provided potable hot water to the apart’hotel’s 192 apartments and communal breakfast area. Citadines required a replacement that could provide water at high temperatures, whilst ensuring minimal environmental impact. The project at the hotel, which is part of The Ascott Limited portfolio – CapitaLand’s wholly owned lodging business unit – is part of CapitaLand’s 2030 Sustainability Master Plan. Under this Plan a phased installation



will also see the Q-ton system deployed at four other Citadines sites across the capital.

Ryan Jules, regional maintenance manager at The Ascott Limited UK, who hired KiPO Consultancy to assist with the key sustainability carbon reduction project, said: "This a significant investment towards meeting both the UK Government and CapitaLand's Sustainability Master Plan target of a 78 per cent reduction in carbon emissions by 2035, for the UK Government, and by 2030 for CapitaLand."

Martin Craxton, of consulting engineers KiPO, worked closely with Citadines to develop a complete renewable solution for the hotel chain. He commented: "Q-ton is an ideal product for commercial water heating applications. It uses CO₂, a natural refrigerant with ultra-low global warming potential, to produce hot water ranging from 60-90°C. Q-ton holds efficiencies when operating right up to 70°C, which is required by the hotel to combat legionella growth. Central London's atmosphere is now rid of the hotel's 600 kW of gas-burning emissions. Q-ton holds its capacity down

to -7°C ambient and still provides full operation at -25°C."

Energy accumulation

Unlike water heaters using gas or oil, renewable heating systems are not usually designed for instant hot water. Instead, KiPO designed the system using a method known as energy accumulation to meet the apart'hotel's usage profile and peak load. The heat pump generates the energy, and a thermal store holds the hot water until it is used.

Principal contractor Nationwide Air Conditioning installed three Q-ton heat pump units and six 1000-litre storage vessels at ground level while the original gas-fired water heaters at the roof level were still in use. The transition to the new system took just a few hours towards the end of the project, ensuring minimum disruption to the property. Nationwide was supported throughout the installation by the MHIAE specifications team. This included online design, training, system design schematics, a pre-commissioning

site visit and assistance with final commissioning.

Comparing energy usage

In addition, the hotel is equipped with a Q-ton Remote Monitoring System (QRMS), a tool that monitors Q-ton's operation, provides the team with a quarterly report comparing energy usage and efficiencies against gas and electric equivalents and self-analyses to highlight any potential operation or maintenance requirements.

Germana Genovese, residence manager at Citadines Holborn-Covent Garden, concluded: "The Q-ton's operation has been perfect, and we're looking forward to seeing how efficiently the system works during its first winter compared to the gas boilers we previously had. Everyone needs to do their bit to help achieve the government targets of net zero and we are proud to play our part." 🏠

Info
www.mhi-hvac.co.uk

Aston University turns to Lochinvar for low carbon hot water

Lochinvar heat pump technology is playing a key part in reducing the carbon emissions at one of England's leading universities.

It has provided two Amicus high temperature (HT) air source heat pumps connected to three hot water storage vessels as part of a major upgrade of the domestic hot water system serving the main building of Aston University in Birmingham.

Founded in 1895, Aston became the UK's first college of advanced technology in 1956 and has been a leading institution for practical learning ever since. Last year it announced a new strategy to focus more heavily on engineering, business, and health education – and this has been matched by an ambition to make its buildings good examples of low carbon engineering.

The university has already secured ISO 14001 and ISO 5001 certifications and was awarded Eco-campus Platinum status for its environmental and energy management systems. As part of its ongoing improvement programme, it has put



Lochinvar's heat pumps at the heart of a new low carbon system with the university expecting to save more than 20,000kg of CO₂ annually as a result.

Stand alone

The heat pumps are a low carbon solution that allows the main building to operate independently of Aston's existing district

heating system and they produce flow temperatures up to 63degC.

Amicus HT heat pumps use the principle of Communised Vapour Injection to improve both output and efficiency. They can achieve a Coefficient of Performance (COP) up to 4.4 and are 25% more efficient than standard scroll compressor driven systems. They will also operate in outside temperatures as low as -20degC.

Amicus heat pumps can be used as stand-alone replacements for conventional heating products or as part of an integrated system providing pre-heated mains cold water to gas-fired condensing boilers, water heaters and buffer vessels in buildings with large heating or hot water demands.

The Aston University system was specified by Alex Hall of Ridge & Partners and installed by Mid-West Mechanical & Electrical Services. 🏠

Info
www.lochinvar.ltd.uk



The homes of the future

Vaillant support the development of affordable, low carbon new build homes in Nottingham.

The Future Homes Standard comes into force in 2025 and will ensure new build properties produce 75-80% less carbon emissions compared to current homes. However, within the social housing sector, housing associations are thinking ahead and looking to build the homes of the future, today.

With a focus on sustainability, Nottingham Community Housing Association (NCHA) has recently built the Parklands Grove development, comprising of seven, two-bedroom properties, with significantly reduced carbon emissions, located in Ollerton. It's the first development that NCHA have delivered entirely from start to finish, using their in-house services, from inception through to delivery. The homes have achieved energy rated 'A' status, with the help of a low carbon heating solution, specified by Vaillant's expert team.

Leading the way

Nottingham Community Housing Association (NCHA) provides affordable housing to more than 20,000 people across the East Midlands, with a target to build a further 2,100 homes in the next five years.



In preparation for their 50th birthday in 2023, the NCHA launched their 'Fit for 50' change programme. This included a focus on new, sustainable housing projects that would help future-proof their newly built homes for the next 50 years.

The Parklands Grove development, made up of seven, two-bedroom properties, has a clear focus on sustainability. The land where the development is built backs onto Ollerton Pit Wood – a wasteland that has recently been brought back to life, and is now rich in wildlife, trees, and plants. This location, coupled with NCHA's mission to deliver more energy efficient homes, meant sustainable energy solutions were vital to the integrity of the project.

Building a solution

Early in the conceptual stages of the project, NCHA were determined to use this unique opportunity to help them inform and achieve their vision of delivering low carbon, sustainable and affordable social housing.

From the outset, Vaillant's team were on-hand to assess the feasibility of the proposed design and supported the NCHA team in finding the right solution for the customer.



Making the plans a reality

Vaillant's aroTHERM plus heat pump was specified to meet the heating and hot water requirements of the new houses in Parklands Grove. Using the natural refrigerant R290, the heat pump has a global warming potential of just 3 and an ErP rating of A+++, making it the perfect solution for the new, sustainable homes.

The use of R290 also means residents can achieve greater comfort levels, as it enables the aroTHERM plus to run at a higher flow temperature of up to 75°C. This allows the domestic hot water to be stored at a useable temperature and legionella cycles can take place without the need for a backup heater.

To provide further support to the technical team, the heat pumps were all positioned outside the homes, below the rear kitchen window, to ensure good access for servicing and repairs. The positioning also helped to minimise the aesthetic impact on the surrounding environment and maximise usable garden space.

In addition, Vaillant's VRC 700 wired controls with an outdoor weather sensor was installed. Designed to work with sustainable technologies, the VRC 700 can decide on the most efficient way to heat the property, taking into consideration the weather outside and the customer's energy tariffs.

An easy-to-use thermostat was also fitted within each of the seven properties to ensure that residents would be able to control the heating in their new home without complication.

Maximising space for hot water

As the seven homes on the Parklands Grove development are all two-bedroom properties, space was at a premium, and the heating system needed to offer a compact design to maximise space.

Vaillant identified that a slimline pre-plumbed uniSTOR hot water heat pump cylinder, that connected to the aroTHERM plus heat pump, would be the perfect solution to provide hot water for Parklands Grove. At 150 litres capacity and a 435mm diameter, the slimline pre-plumbed uniSTOR is ideal for space-prohibitive installations.

In addition to its compact size, the uniSTOR cylinder offers high performance as it has a smooth bore coil – purposefully placed to ensure optimum heat transfer in a compact design. Combined with a



low-standby loss of 1.8kW per 24 hours, residents can rest assured they will get consistent hot water temperatures even during high demand periods.

In the know

Vaillant supported the installation of the heat pump system on-site alongside NCHA's own engineers and provided in-depth user training to all NCHA Housing Officers, to ensure they could confidently explain the heat pump system and controls to tenants.

With heat pumps still being regarded as an emerging technology, it became clear that tenants would need more information about the system than they would for a boiler. This led to the creation of NCHA's Heat Pump User Guide, and was supplied to tenants when they moved into the property.

Striving for zero emissions

Solar panels were installed on the Parklands Grove development to help power the heat pump system with green electricity, backed up by battery storage to make the most of the green PV energy. Electrical connection points have been also set up outside each property to accommodate the installation of electric vehicle charging points in the future.

The Parklands Grove development has boosted its environmental credentials by not being connected to the mains gas grid, with a heating system that is zero emissions at the point of use, using no fossil fuels.

Ian Soar, Site Manager at NCHA, said "With the Future Homes Standard coming into effect in 2025, it's understandable that some housing providers may be nervous about embarking on building new low carbon homes now, but we have shown through the Parklands Grove project in Ollerton that, with the right support, it is possible to develop affordable, low carbon homes for the social housing market.

"NCHA are using this scheme to pilot, analyse and review alternative energy installations to inform our future developments. We will use this data to inform how we can reduce energy costs to make our homes more sustainable, future proofing them for the next generation."

Info
[Vaillant.co.uk/unbox](https://www.vaillant.co.uk/unbox)

Vouge... but not as Madonna would tell it

The era of the Domestic Heat Pump is well and truly in vogue and correctly so, says Bruce Boucher M Inst R (CIBSE) from Bruce Boucher Consulting & Design

An accurately selected Heat Pump for a given property is more than capable of replacing an existing fossil fuel heating boiler.

In reality the above paragraph does need an element of qualification. The established heating Industry has not delivered for decades the best results for heating domestic properties. As a result, the HP is facing significant and unfair scrutiny. The energy crisis we face today has forced the established fossil fuel solutions to be examined more closely. The costs of primary fuels had exposed a well-documented underperforming Fossil Fuel Heating Industry.

Safe refrigerant

On the other side of the coin the Heat Pump as produced today is far superior to earlier type of product from only a few years ago. One recent significant change is the use of R290 (propane) by some manufacturers, and new product coming in 2023 using R290. This widely used and safe refrigerant provides far higher LWT (leaving water temperatures) than many of the HfC's such as R32, 407,410 etc, therefore providing a greater degree of application opportunities. This does not suggest Heat Pump's using these other refrigerants are not suitable solutions, far from it.

In monoblock outdoor units the refrigeration system is hermetically sealed for life, and unlikely to be tampered with similar to other refrigerants. NG requires much more strict regulation for obvious reasons as it is live and open in many instances.

Poorly performing installations

As a result of many 10's of 1000's of poorly performing existing fossil fuelled installations, the LWT varies dramatically as low as +35°C > 70°C. So, when a Heat Pump is being considered as a retro-fit, supply water temperature is paramount, and the existing heat emitters require scrutiny. Perhaps most importantly a



Bruce Boucher

“Building Heat Loss Calculation” should be the first port of call. The property structure, age of, the existing thermal performance, such as double glazing, cavity wall insulation, roof space insulation. However, homes do need to breathe, some have MVHR (mechanical ventilation heat recovery) more-so in new builds.

R290 is capable of delivering a LWT of up to 70°C, moreover the lower the flow temperature, the better the Heat Pump CoP. To compete with NG a CoP of 3+ will compete with current NG prices. So far, we



have not mentioned possible levy changes, the environment and future Net ZERO carbon ambitions.

The scrutiny of the Heat Pump has been contrived from significant ignorance of the technology and negative press, much of the poor-quality social media has not helped the cause. It would be reasonable to state the Heat Pump existed well before the modern non condensing and condensing boiler.

A poorly performing existing heating installation is just that! No Heat Pump or fossil fuel appliance will resolve that situation. Sadly, some home owners don't tell the full story of their existing poorly performing systems. This can prove the death knell of the new HP, getting the blame for all the previous malfunctions of the existing installation.

It is imperative, the existing controls are examined but unlikely to be used in the new installation. The system should be thoroughly flushed through if not fitted recommend a “magnetic” water filter is installed. The existing heating emitters (radiators) be examined, TRV's work if fitted, insulation fitted in exposed areas such as roof space, in between floors if accessible if not contributing to the space temperatures.

Microbore accounts for much comment, specifically below 12 mm in diameter. This can be an issue with very low flow temperatures. But that debate for another time.

Mockery & Flak

The average heat loss of our common housing stock is around 5-8 kW's, making a mockery of an existing installed boiler of 30kW's. The Combi Boiler is coming in for a lot of flak, specifically older ones that are unable to vary the burner output. Weather compensation can save energy by compensating for the outdoor temperature for both the HP and NG boiler. It should be fitted, sadly some boilers have them already fitted and part of the controls



but not wired or set-up. It is a fact most fossil fuel boilers and systems are never commissioned at all.

It is likely a pre-insulated DHW storage facility is needed to be added when installing a Heat Pump, often a cupboard or space can be found to accommodate it, so many clever ones on the market to choose from, even talking to your PV's if you have them installed.

A full and thorough site investigation is paramount for the outdoor unit, the obvious is the actual location of the unit as it is external to the building, noise has to be considered, it requires adequate air space and possible inquisitive fingers.

We then consider the mains electrical supply and the consumer unit can cope. The penetration into the home of services such as; the pipework and insulation, ideally pre-insulated as opposed to a loose fitting, poorly applied product. Sleeves should be inserted throughout the inner and outer walls then sealed off.

Can you prove it?

After all the work is completed, tested and run-up, proper commissioning should be carried out. This is not just a few minutes but a few hours, allow for a return visit if practicable. Controls to be set-up, flow rates, flow temperatures. Can you prove your design is actually delivering on the promise to the customer. A commissioning sheet should be completed explained too and signed off by your customer.

Spending time with the home owner/operator, one question always asked, "The radiators don't appear to be as hot as before" You may reply well the set point for this room is 21°C my digital thermometer shows it is.

Perception is by far the main critique by the customer after a HP has been installed. Another classic is; my radiator is cold... question; are you cold, answer "NO"... again perception.

With any heating installation certainly in winter, other than those closed off

(decorative covers) for whatever reason, the radiator will show signs of heat retention irrespective of the temperature.

Education

Finally, now and into the future, education is needed as heating systems are designed for lower water flow temperatures.

Remember any radiator selected should be designed for the new era of home heating existing homes and new, simply the lower the flow temperature, the bigger the surface area of the radiator to meet the heat loss from that space. 🏠

Info
www.bbc-consultancy.com



From left, Martyn Ives, Peter Smith, Scott Ballantyne, Mitchell Scott, Mark Forsyth, Luke Haile, Todd Montague, Charlotte Robinson, James Richardson.

Luke Haile strikes gold in RACHPskills finals

After almost a year of training days and competition, the finals of WorldSkills UK-RACHPskills UK took place over three days at Barking and Dagenham College, with Luke Haile of Lightfoot Defence/Eastleigh College named this year's gold medal winner.



Organised by Warners Group Publications, publishers of ACR Journal and Heat Pumps Today, the event saw Scott Ballantyne of AE Refrigeration/Glasgow College win silver and Todd Montague of Vivo Defence Services/Bath College claiming bronze, with fellow finalists Mitchell Scott (Universal Cooling/Practical Refrigeration training Centre), Charlotte Robinson (Catalent Pharma Solutions/Bath College) and Peter Smith (Arcus Ltd/Eastleigh College) all achieving outstanding results.

Headline sponsor Fujitsu invited all six finalists to join them for two unforgettable VIP days, incorporating the medals ceremony and as their guests to watch coverage of England's World Cup clash with USA.

Fujitsu Distribution Sales & Technical Services Director Martyn Ives said: “We are really proud to have been involved as headline sponsor. The RACHPSkills UK competition aligns with Fujitsu’s dedication to educating and supporting the next generation of people in our industry.

“It has been a pleasure meeting many young apprentices from all over the country and we wish all the competitors the very best of luck with their future careers.”

The finalists received a cheque for £150 from ACRIB (Air Conditioning and Refrigeration Industry Board), presented by Industry of Refrigeration president Graeme Fox

Overall winner Luke Haile has now earned the chance to be selected and represent our industry and compete as part of Team UK in France 2024. He said: “The whole experience has been amazing and I have really enjoyed the opportunity to develop new skills, as well as benefiting from the specialist training provided to me by Fujitsu.”

WorldSkills UK has welcomed home Team UK to celebrate their achievements in the Internationals WorldSkills Competition 2022 Special Edition, where they performed exceptionally well especially given the difficult build-up to this competition cycle. A reception was held at the Houses of Parliament for special guests, with a speech from the Skills Minister and Olympians to the international competitors and leading brands, including Fujitsu.

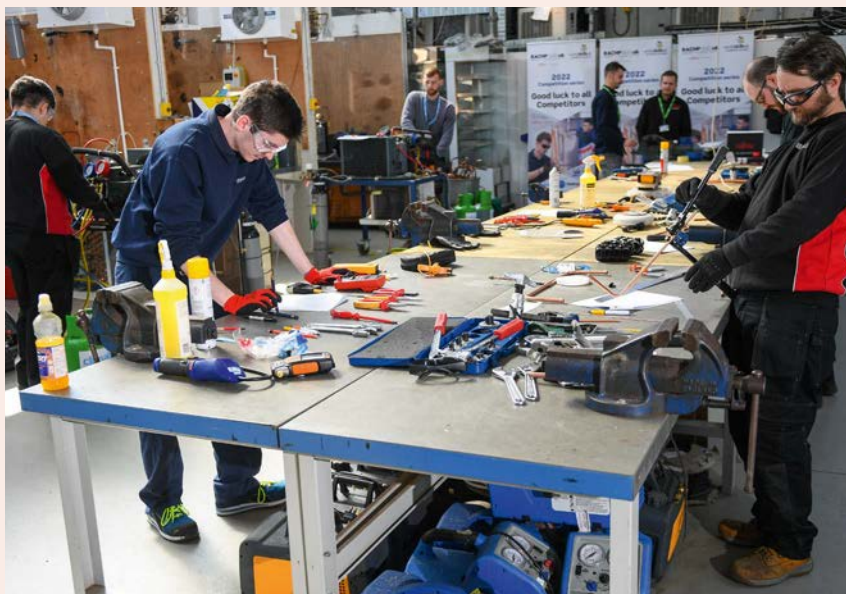
<https://www.worldskillsuk.org/skills/international-competition/>

A total of 27 young apprentices registered in this year’s RACHPSkills UK event to compete and have their skills tested and benchmarked against WorldSkills Standards.

Industry provided support through equipment, judges and test projects which challenged knowledge and inspired confidence amongst the competitors. The biggest contribution came from Fujitsu as headline sponsor, via new products, training days, supporting colleges hosting the qualifiers, and inspiring the next generation of RACHP engineers.

It has been great to see our industry back in the spotlight alongside 60 other apprenticeship skills promoted by WorldSkills UK to young people. 🇬🇧

Photos from the competition qualifier rounds



GRANT UK APPOINTS LEWIS BARR AS NEW AREA SALES MANAGER FOR SOUTH EAST ENGLAND

Grant UK is pleased to announce that Lewis Barr is the Company's new Area Sales Manager for the South East of England. A familiar face for many installers and engineers, Lewis has worked for Grant UK for over a decade in their Technical Department and in his new role, he will be providing sales and product support out in the field.



Lewis Barr

Lewis is joining Grant UK's External Sales Team, working alongside the eight other Area Sales Managers as well as the Regional Sales Managers, Sales Support Engineers and Renewables, Spares and National Sales Managers. Lewis will be covering the counties of Hertfordshire, London, Surrey, Kent, West Sussex and East Sussex. He will also be working closely with merchants and helping customers improve the efficiency and sustainability of home heating systems.

Lewis first joined Grant UK in 2011, working in the Quality Department as a Technical Returns Analyst. A few years later, he joined the Pre-Sales Technical Team and later was appointed a Technical Advisor, and in both these roles, Lewis provided in-depth product support for pre-installation enquiries and after-care for installed products. More recently, he has been the Project Support Manager looking after larger renewable installation projects, supporting customers with technical support for air source heat pumps and Grant's other renewables ranges.

www.grantuk.com

CHRIS JOHNSON JOINS VIESSMANN

Viessmann has appointed Chris Johnson as UK Director of Sales, based at the company's Telford headquarters. In what is a new senior organisational position reporting into Managing Director Graham Russell, Chris will oversee Viessmann's complete UK sales operation, covering domestic and commercial sales of all products and services within the company's Climate Solutions division.



Chris Johnson

Chris has previously held sales and business development leadership positions at Vaillant, Stiebel Eltron and Plumbing Trade Supplies (PTS). With his most recent role as National Sales Director – Heat Pumps & Renewables at Vaillant, he brings highly relevant experience as Viessmann expands and grows its penetration of the heat pump market with its Vitocal range of heat pumps.

"I'm really looking forward to developing and leading the sales structure and strategy of the Viessmann business as it transitions to become an even stronger renewables focussed company," said Chris Johnson. "Joining Viessmann at a pivotal point in its accelerated active transition towards renewable solutions and supporting the UK team to reshape the customer proposition are opportunities I'm very excited to deliver on. Working for an organisation with family values and the ambition to develop future-oriented solutions was at the forefront of my decision to join the Viessmann family."

www.viessmann.co.uk

IOR WELCOMES NEW TRUSTEES AND HANDS OVER TO NEXT PRESIDENT

At the AGM on 3rd November, the IOR announced the results of its Trustee Elections. Three members stood for the two vacancies this year, and members elected Paul Singh FInstR and Damian Wiszniewski MInstR to join the IOR Board of Trustees.

Chairing the AGM, IOR President Mike Creamer FInstR thanked all three candidates who stood for election to the Board of Trustees for their willingness to volunteer to serve on the Board. He also thanked Board Members whose term has now come to an end, Lisa-Jayne Cook FInstR, Juliet Loiselle MInstR, and Kevin Glass FInstR, for their contribution and support. Mike formally handed over the role of President to Graeme Fox FInstR who was elected by the membership last year.

About the new Trustees

Paul Singh has been working in the RACHP sector for over 45 years in Training and Assessment roles. Paul has a particular interest in addressing key issues facing our sector including training, raising awareness and image, recruitment and environmental impact.

Damian Wiszniewski currently serves as the Chair of the Membership Committee. He has been an active member of the HVACR community for the last 10 years, and also supports the Hampshire Refrigeration Society as Vice-Chair and is a member of the IOR Southwest Branch steering group.

A complete list of current Trustees and information about the role and elections processes are available on the IOR website at

www.ior.org.uk/board-of-trustees



Paul Singh FInstR



Damian Wiszniewski MInstR



Graeme Fox FInstR, IOR President

INNOVATIVE,
RELIABLE,
EFFICIENT.

WARMFLOW
Zeno

Air Source Heat Pumps

50 YEARS
KEEPING FAMILIES WARM



SCAN ME

R32
REFRIGERANT GAS



WarmLink
Remote control &
diagnostic capability

A+++



QUIET MARK



HIGH TEMPERATURE OUTPUT

Flow temperature up to 60°C means domestic hot water (DHW) can be produced without the need for additional heat sources.



USER-FRIENDLY TOUCHSCREEN INTERFACE

Covering all aspects of heat pump and system control; the brain of the system.



3 MODELS

Zeno 8kW, 12kW & 20kW



WARMLINK APP CONTROL

Remote control & diagnostic capability through the cloud based app.



ecodan[®]

retrofitting for net zero

There's an Ecodan for every home



Multi-award-winning range of air source heat pumps



ErP Energy Rating Label across the range – cutting CO₂



Market-leading ultra-quiet sound levels



Guaranteed low temperature operation



Smart control and remote monitoring via MELCloud App

The switch to low carbon heating systems for our homes is critical to ensure the UK achieves its 2050 net zero carbon emissions target.

Find out more at ecodan.me.uk/hpt4