ISSUE 25

APRIL 2025

# HEAT PUMPS TODAY

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15th May 2025

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## RIVER THAMES TO HELP POWER UNIVERSITY OF EAST LONDON'S NET ZERO CAMPUS P19


Samsung Climate Solutions supports community-led housing project P16

Women in the heat pump industry: Andrea Ellison P20

A look inside Queens Quay's water source district heat pump system P26

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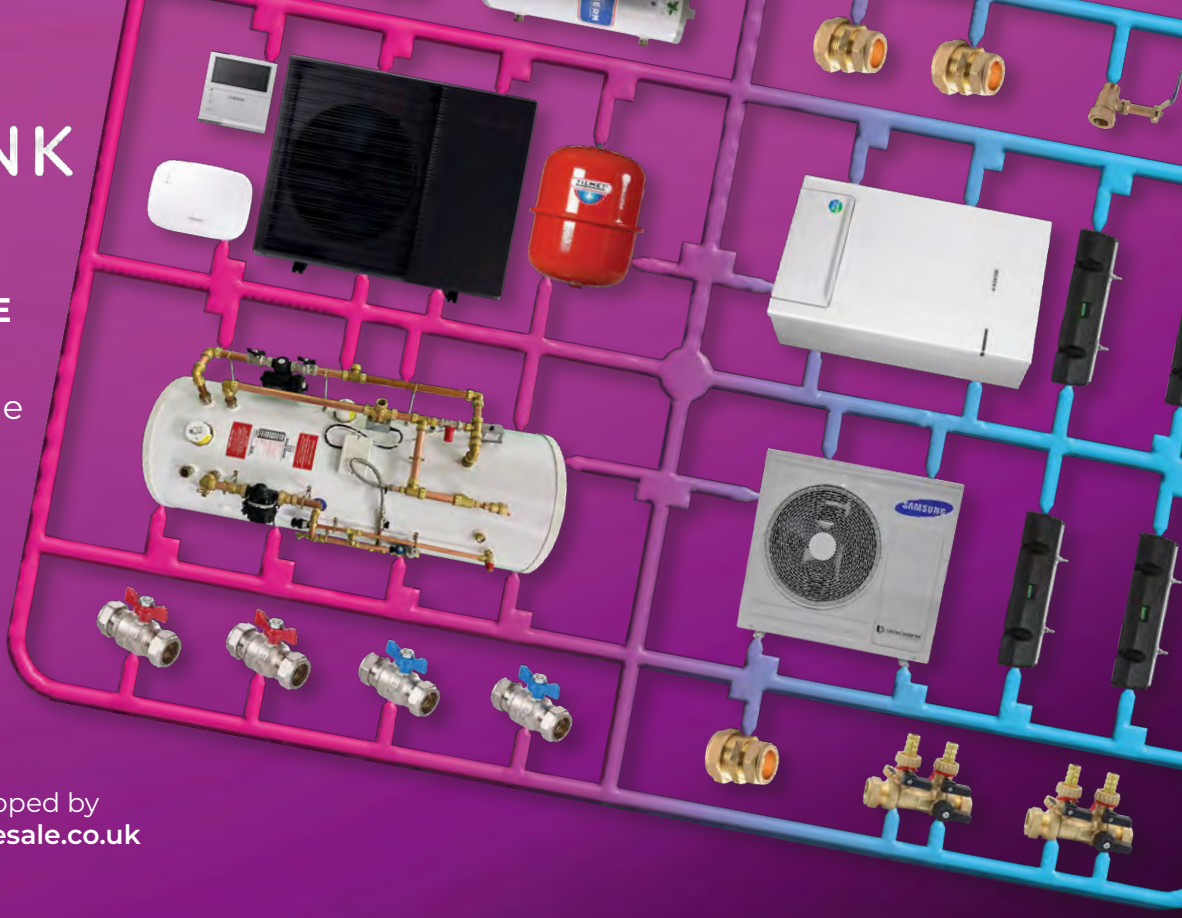
**heatpunk.co.uk**



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**Complete your air loss heat calculations quickly and easily with Heatpunk.** Build accurate floor plans, run performance calculations, specify and compare systems options, faultless paperwork and purchase the complete system - all in one place!

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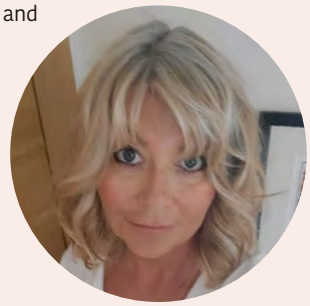
Your Heatpunk project can include the latest **Gen 7 R290 heat pumps and the new cylinders from Samsung (both standard and pre-plumb)**, which offer cutting-edge technology that enhances comfort and have a low Global Warming Potential.

## Welcome to the April issue of Heat Pumps Today



This issue dives deep into varied selection of technology and installations. You can read more on Water Source Heat Pumps, District Heating, Social Housing and Hybrid Heat Pumps. In addition to this, we are covering more on the importance of service, maintenance and training.

In recent weeks, I've been lucky enough to be 'out & about', from Lyon to London, learning more about high temperature heat pumps and storage. The front cover of this issue refers to a London university's very interesting and encouraging journey to achieving a Net Zero campus – turn to page 19 for the full story.

Last month saw the great and the good of the HVACR sector come together in Manchester. In excess of 400 attendees helped to celebrate excellence within the industry. The very worthy winners are noted on pages 12 and 13, with a QR code available to access the full Award Winners brochure.

Finally, I'd like to provide a huge thank you to David Crowson, Digital Editor who has helped enormously with bringing together this month's issue of Heat Pumps Today.

**Juliet Loiselle FinstR**
**Editor/Publisher**

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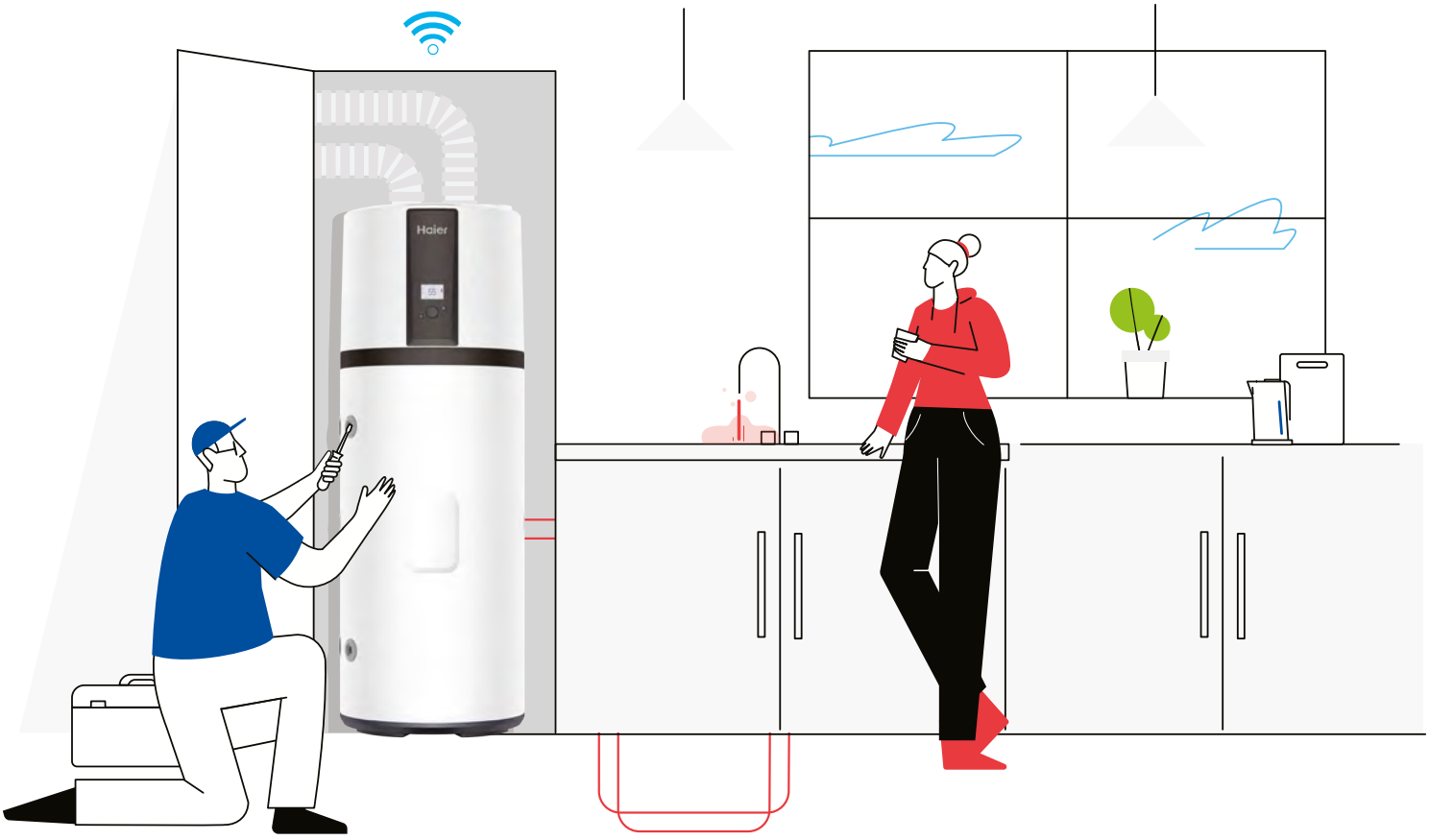
# The new name in heating




**Introducing Haier's New R290 air source Heat Pump Water Heater (HPWH),** which adopts advanced full-inverter heat pump technology to provide a solution that delivers high efficiency, stability, and quietness. Compared to traditional electric storage water heaters it can save up to 75% of energy for domestic hot water in households, making it equally suitable for renovation and new constructions.

The HPWH range comes in **80L-250L** wall mount & floor standing options, delivering high energy efficiencies as well as **65°C** high leaving water temperatures. Encompassed by an environmentally friendly refrigerant and full connectivity via the **hOn** application. A range that dedicates itself to providing the right solution for a variety of needs – setting the standard for **the future of sustainable water heating.**


For more information and where to buy, Scan here

haierhvac.eu

# Scotland's renewable risers: top 5 installation areas


MCS (Microgeneration Certification Scheme), the UK's quality mark for small-scale renewable energy, has revealed the top five performing areas in Scotland for certified renewable energy installations, including solar PV, heat pumps and battery storage.

The top five areas in Scotland for renewable installations are:

- Orkney Islands
- Stirling
- Aberdeenshire
- Na h-Eileanan Siar
- Argyll and Bute

To read the story in full visit:
**www.acrjournal.uk/heat-pumps/scotlands-renewable-risers-top-5-installation-areas**

## Vaillant opens new multi-million hot water cylinder plant in Derbyshire

Vaillant has opened a new, multi-million-pound manufacturing plant in Derby, producing high recovery, hot water cylinders.

The new £40m dedicated facility is not far from Vaillant's existing Belper headquarters where it manufactures its heat pumps and boilers. The new site will now produce its latest uniSTOR high recovery slimline cylinder models, which are a vital component for effective and efficient heat pump installation.

This substantial investment further demonstrates the company's commitment to the innovation and progression of low carbon home heating systems and generating ongoing employment opportunities in the region and sector.

The uniSTOR high recovery cylinders, which will be coming off the new line in Derby, have been specially developed to meet the needs of UK consumers for low carbon, low temperature heating systems, as well as traditional boiler systems.

The purpose-built facility could see around 200 jobs created for the area in the coming years as the heat pump market continues to grow.

The opening was officially marked by visits from key figures from the local area, including those who have been involved in the development of the cylinder and plant.

To read the story in full visit: **https://tinyurl.com/5n8aj26a**

**www.vaillant.co.uk**

*Harriet Evans, UK Sales and Marketing Director at Qvantum Energy Technology*

## Evans appointed UK Sales and Marketing Director at Qvantum Energy Technology

**Harriet Evans** has been appointed UK Sales and Marketing Director at heat pump manufacturer Qvantum Energy Technology, after initially joining in a consultancy role. She previously served as Renewables Director at Baxi and in a consulting specification role at Beijer Ref UK & Ireland.

Harriet said: "Whilst initially consulting for Qvantum, I soon realised that the company is unique in how it designs heat pumps and the impact it can have on the UK and wider energy markets. It's an exciting role that allows me to build a presence with some really groundbreaking products."

Qvantum Energy Technology CEO **Phil Ord** commented: "Harriet joins us with many years of experience in the HVAC sector. We have worked together before, and I am confident she will have a positive impact on our business. I look forward to seeing the Qvantum brand grow with her on the team."

**www.qvantum.com/uk**

# ACR& HEAT PUMP REGIONAL EXHIBITION

## BIRMINGHAM

15th May 2025

### Aston Villa Football Club

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# ACR& HEAT PUMP REGIONAL EXHIBITION

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# Gemserv to deliver the Heat Network Efficiency Scheme (HNES) until 2029

Gemserv will continue as the Heat Network Efficiency Scheme (HNES) delivery partner and will be supported by Ramboll and Gleeds Consultancy. The contract will run until 2029 and ensures they will continue to play a key role in delivering the Government's Heat Network Transformation Programme.

The new contract means that Gemserv will continue to manage the overall scheme delivery, pre-application engagement and support, application management, monitoring and reporting processes, and the delivery of the scheme's communications and events.

HNES is at the beating heart of the transition to net zero. It is designed to breathe a new lease of life into older, inefficient heat network infrastructure. Funding is provided to help make heat networks more efficient, less carbon intensive and for reducing customer detriment to improve consumer confidence in the technology. The support is also vital to help existing heat networks prepare for heat network regulation, zoning, and technical standards.

So far, through Gemserv's delivery of the scheme, 233 heat networks have received a share of £34.83 million, benefiting over 43,000 residents and reducing carbon emissions by over 100,000 tonnes of $CO_2$ per annum.

**Miatta Fahnbulleh**, Minister for Energy Consumers, said: "The energy shocks of recent years have demonstrated the need to ensure heat networks deliver energy to connected customers as cheaply and reliably as possible.

"The HNES plays an important role in this, ensuring old and inefficient heating systems are upgraded to provide heating and hot water, and helping businesses and homes lower their energy bills.

"This contract will allow Gemserv to provide support to transform underperforming heat networks, so they deliver the service customers deserve."

Those interested in applying for the scheme can express their interest by emailing: **HNES@gemserv.com**.

The HNES guidance is available by visiting: **www.gov.uk/government/publications/heat-network-efficiency-scheme-hnes**

## Qvantum partners with Service Box

Qvantum Energy Technology is partnering with aftersales solutions provider Service Box to offer a nationwide service and maintenance support network to its heat pump customers.

Following its recent UK launch with a range of innovative heat pump solutions, Qvantum says it has chosen Service Box to deliver its aftersales support because of a shared dedication to excellence.

### Why Service Box?

- Excellent track record in providing outstanding customer service reflected in its Trustpilot score.
- Access to a nationwide network of highly-trained engineers, ready to service and support Qvantum products when required.
- End-to-end aftersales solution which includes UK call centre support, optimised registration and sales journeys, and an enhanced cover and service package for customers.


**www.qvantum.com/uk**

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## A new cylinder range, built to meet your needs.

Our brand new uniSTOR range can save you time, with convenient features for a faster installation. Designed for greater efficiency and performance, with all domestic boilers and heat pump installations.

Scan to learn more about our new range: **professional.vaillant.co.uk/unistor**

*Vaillant for Life*

Vaillant

## elementalLONDON unveils key content themes for debut event

elementalLONDON 2025 has revealed the content themes that will be at the heart of the show this year - including two Build2Perform theatres delivered by CIBSE, as part of their strategic partnership with the event.

There will be five content areas with seminars and debates on all the major issues facing those tasked with decarbonising buildings, while making them affordable, comfortable and sustainable.

The elementalARENA will feature lively debates and interactive sessions on advancing the efficiency of buildings. Speakers will include government ministers, academics, industry leaders and prominent figures from the event's industry partners – such as ConstructZero and Energy UK – covering policy updates, innovation, skills and much more.

There will also be the Housing Hub, with sessions curated by industry partners such as National Retrofit Hub and RICS, with essential information for councils, housing associations, housebuilders and developers.

Topics to be discussed include:

- **Decarbonising home heating** - Our experts will address the shift away from fossil fuels to heat homes, with real examples of successful projects using a range of technologies to provide domestic heating and hot water.
- **Retrofitting hard-to-treat homes** - Some property types are more complex when it comes to implementing energy efficiency solutions – our speakers will share insights from research and real-life projects.
- **Approaching the Future Homes Standard** - Our content will tackle delivering energy-efficient homes at scale, while growing sustainable supply chains.
- **Accessing funding for efficient social housing** - We'll bring together experts to demystify funding models for low-carbon social homes, assisting our audience to fight fuel poverty in their communities while encouraging investment.
- The **Climate Solutions Theatre** will host content for those working with heating and cooling in commercial and public buildings. Expert speakers will look at the issues in the round, from the policy landscape to industry trends to the activity 'on the ground'.

Among the hot topics will be the decarbonisation of HVAC, the challenge of large buildings, Indoor Air Quality – opportunity or crisis? – and cooling at the crossroads.

To find out more visit: **www.elementallondon.show**

## NIBE announces strategic partnership with British Gas to enhance HP service and support


NIBE Energy Systems Limited is pleased to announce a strategic partnership with British Gas. This collaboration marks a significant step forward in strengthening NIBE's service network, ensuring even greater support for the UK's rapidly expanding heat pump market.

Through this partnership, British Gas will become an approved NIBE service partner, providing an expanded support network for customers and installers alike.

**www.nibe.eu/en-gb**

## New RCD guidance published to support Heat Pump Installers

The Heat Pump Association (HPA) has teamed up with electrical certification bodies NAPIT and NICEIC to produce comprehensive Guidance for Heat Pump Installers to assist in choosing the appropriate residual current device (RCD) for their projects.

In 2024, nearly 100,000 heat pumps were sold in the UK, up 63% from 2023, highlighting the rapid growth of heat pump integration in electrical installations.

The new Guidance focuses on domestic heat pump installations. It covers the RCD selection process, explains the different types of RCD on the market and their properties, and outlines the specific requirements and considerations to safely and robustly protect heat pump installations. The user-friendly format covers a 4-step process, followed by frequently asked questions to help installers understand the various considerations. The guidance is intended to be informative for those with an interest in the subject and instructive for those with electrical competence.

Commenting on the release, **Charlotte Lee**, Chief Executive at the Heat Pump Association said: "The Heat Pump Association is dedicated to supporting installers and promoting high quality heat pump installations to improve the consumer experience. This new Guidance adds to the HPA's ongoing efforts to support the sector as it scales up to meet increasing demand. It aims to simplify the RCD selection process and provide clear answers to common questions."

This initiative underscores the HPA's commitment to supporting heat pump installers. With heat pumps playing a pivotal role in the transition to net zero, maintaining these systems to a high standard is critical to ensuring their efficiency, performance, and reliability.

For more information and to access the Guidance, visit the HPA's technical resources page:
**www.heatpumps.org.uk/resources/technical-resources**
**www.heatpumps.org.uk**

# Turn one-time installations into recurring revenue

**Neil Mattock**, Marketing Director for Vokèra, part of Carrier Residential and Light Commercial EMEA explains how installers can leverage maintenance contracts to benefit their business.

As an installer, securing a steady flow of income can often feel like a challenge after completing an initial project. However, maintenance contracts present a significant opportunity for you to build a stable, recurring revenue stream while ensuring optimal system performance for your clients.

## The value of maintenance contracts

Maintenance contracts provide two key benefits for installers. Firstly, they ensure a reliable source of income beyond the initial installation. Instead of relying solely on one-off projects, installers can establish ongoing relationships with customers by scheduling annual system checks, this provides peace of mind, and ensures the system continues to operate efficiently.

Secondly, these contracts guarantee that customers receive the best possible performance from their systems over time. Just like regular car servicing, keeping a heating system in optimal condition requires periodic inspections, cleaning, and preventive measures. Without proper maintenance, small issues can grow into significant problems, leading to system unreliability, increased energy consumption, or reduced performance.

## Increasing system efficiency and reliability

By offering regular service contracts, installers can ensure that a customer's system - whether it is a boiler, heat pump, or any other heating system - is operating at peak efficiency.

Annual check-ups allow installers to catch early signs of wear, prevent potential failures, and optimise energy use. For instance, over time, condensing boilers can accumulate oxides in the heat exchanger, which can reduce heat transfer and lower overall efficiency. By addressing this issue during scheduled services, you avoid performance degradation and extend the life of the system.

Neil Mattock, Marketing Director for Vokèra

A comprehensive maintenance approach doesn't just focus on the heat generator but also considers the broader system. This includes inspecting for leaks around radiators or ensuring that stored water systems, such as unvented cylinders, are functioning correctly. Ensuring the system's integrity prevents small issues like water leaks from affecting the overall performance.

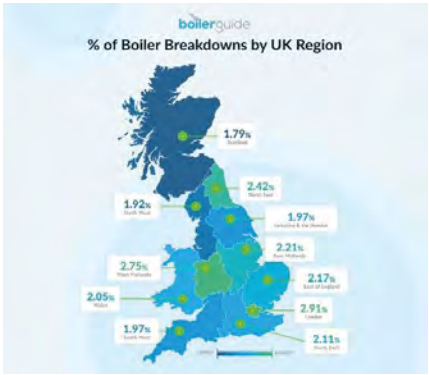
## Creating long-term relationships with clients

Offering service contracts can turn a one-time client into a long-term customer. When an installer provides quality service over the life of the heating system, clients are more likely to trust them for future installations, upgrades, or repairs. Regular maintenance can also lead to referrals, as satisfied customers are more likely to share your details with friends needing reliable service.

Maintenance contracts can also be structured to help clients manage costs. Just like car manufacturers offer service plans on a monthly or yearly basis, installers can offer customers flexible options for ongoing care. This not only helps with budgeting but also ensures that customers stay committed to their system's upkeep.

## How Vokèra can support installers

Vokèra's latest generation of heating products have been designed with the installer and customer in mind, helping to facilitate ongoing maintenance and customer engagement. The new generation products feature built-in service reminders and maintenance codes, which notify both you and your clients when a service check is required. This allows for timely maintenance, helping to limit interruptions and ensuring that efficiency levels remain high throughout the system's lifespan.




## A strategy for the future

Home boilers are most prone to breakdowns during the winter months when demand is highest. By promoting regular, scheduled maintenance to customers, installers can help prevent these issues. This proactive approach not only reduces the likelihood of winter failures but also allows installers to avoid seasonal peaks and dips in workload, ensuring a more consistent flow of work year-round.

By embracing maintenance contracts, installers not only create recurring revenue but also deliver value to their customers through improved system performance and reliability. Maintenance helps to limit costly breakdowns, increases system longevity, and gives clients confidence in the efficiency of their heating systems.

As the market evolves, forward-thinking installers will seize this opportunity to enhance their customer relationships, ensuring long-term success.

**www.vokera.co.uk**

# Why mastering fault-finding sets today's installers apart

For today's installers, fault-finding skills are essential not only to meet current customer needs but also to prepare for the future. **David Iszchak**, Technical Trainer at Vokèra, part of Carrier Residential and Light Commercial EMEA, discusses how the fault-finding training series he runs offers a clear path for installers to gain essential skills.

As the UK transitions toward energy-efficient and sustainable home heating solutions, the HVAC and plumbing sectors are experiencing a shift in demand. Customers who once sought replacements are now increasingly looking for repairs, driven by both economic uncertainty and environmental concerns. In this evolving landscape, installers who cultivate fault-finding expertise can unlock new revenue streams, build lasting customer relationships and remain competitive as the market shifts toward sustainable, high-tech equipment like heat pumps.

## Meeting market demand: why repair services are on the rise

In the UK HVAC sector, repair requests have surged post-pandemic[1]. Customers increasingly prioritise economic and environmentally friendly options, seeking to extend the lifespan of their heating systems through repairs rather than opting for new installations.

Government incentives and policies have also played a role[2], as initiatives like the £7,500 grant for heat pump installations aim to reduce reliance on fossil fuels. However, as heat pump installation costs and integration complexities challenge both customers and installers, repairs on existing systems remain the preferred option for many.

Amid these trends, a significant skills gap is emerging. Approximately 165,000 people work within the UK HVAC industry, yet the workforce has shrunk by 4% since 2004[3], mainly due to the retirement of older technicians and a limited influx of new talent.

This gap underscores a critical need for installers to develop specialised skills like fault-finding to support growing repair demand. For installers willing to invest in training, fault-finding fills this gap and presents a sustainable business model that meets evolving market needs.

David Iszchak, Technical Trainer at Vokèra, part of Carrier Residential and Light Commercial EMEA

## Adding value with fault-finding skills

For installers, fault-finding training represents more than just a way to broaden their service offerings.

The training focuses on two main areas: core principles and component-specific techniques. In the first part, installers learn diagnostic techniques - applicable across boiler brands - covering everything from electrical systems to component testing. The second part of the training provides a deeper dive into specific products, offering insights into installation errors.

By familiarising installers with such issues, we can ensure that they're equipped to diagnose faults quickly, translating this expertise into profit by offering on-the-spot solutions. Fault-finding skills are essential to remain competitive as the industry advances. For instance, recent projections show a compound annual growth rate of 4.73% for the UK heating equipment market through 2029, driven by a shift toward sustainable heating solutions like heat pumps

As installers begin working with newer, more complex systems, the ability to troubleshoot and repair becomes crucial for maintaining customer satisfaction and standing out in a competitive market.

## Building a future-proof business model

In a landscape marked by evolving technologies and shifting market demands, installers who embrace fault-finding training can adapt more readily. Fault-finding skills can apply broadly across different brands and models, future-proofing installers' businesses against industry volatility.

## Embracing fault-finding as a competitive advantage

The HVAC and plumbing markets in the UK are poised for significant growth, with sustainability initiatives and consumer preferences reshaping the industry. For today's installers, fault-finding training represents a unique opportunity to add value to their business, meet the evolving demands of their clients. By embracing these advancements and investing in training, installers can not only enhance their skills but also drive their businesses forward in an increasingly competitive market.

**www.vokera.co.uk**

**Source**

1. www.ibisworld.com/united-kingdom/industry/plumbing-heating-air-conditioning-installation/2505
2. www.mordorintelligence.com/industry-reports/united-kingdom-heating-equipment-market/market-size
3. https://housegrail.com/plumbing-and-hvac-statistics-uk/

# An amazing night was had at the National ACR & Heat Pump Awards

Hundreds of the best and brightest of the HVACR industry met at the Midland Hotel, Manchester on the 6th of Ma


## RACHP Woman of the Year

**WINNER: Charlotte Lee**
Chief Executive of the Heat Pump Association


## Training Provider

**WINNER: Mitsubishi Electric**
The Gamification of HVAC Training

**HIGHLY COMMENDED: MCFT**

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## Wholesaler/Distributor

**WINNER: Unitherm**


## Best IAQ Innovation

**WINNER: Martin Industries Ltd**
AirXPro


## Ancillary Product

**WINNER: Carrier Solutions UK**
Toshiba RBC-MTSC1 Mini Touchscreen Smart Controller

**HIGHLY COMMENDED: Intatec Ltd**
Inta XCEED Heat Pump Magnetic Filter


## Refrigeration Project

**WINNER: FridgeHUB**
CO2 plant for Wilkins Jam Factory

**HIGHLY COMMENDED:**
**AE Refrigeration Air Conditioning**
Specialist Support at Thistle Seafoods Ltd


## Ground Source Project

**WINNER: Viessmann Climate Solutions UK**
Waters View, Futureserv with Viessmann Climate Solutions UK

**HIGHLY COMMENDED: NIBE**
Lackington Mill, 18th century corn mill heated with NIBE GSHP


## Air Conditioning Project

**WINNER: WAVE Refrigeration**
Aldi Goole Underfloor Heating and Cooling

**HIGHLY COMMENDED:**
**BREng / EBA Climate**
Tingley Garden Centre


## Domestic Air Source Project

**WINNER: R A Brown Heating Services**
Retrofit Townhouse, City Centre Riverside Property, Norwich

**HIGHLY COMMENDED:**
**Viessmann Climate Solutions UK**
Custom Renewables

THANK YOU TO OUR SPONSORS

rch 2025 to celebrate excellence within the industry. Congratulations to all the winners and highly commended.


## Non-Domestic Air Source Project

**WINNER: Solaris Energy Ltd**
Mobile Energy Plantroom (MEP) at Wembley Park

**HIGHLY COMMENDED: Pure Thermal Ltd**
Greenpeace make the Natural move


## Refrigeration Product

**WINNER: Hubbard Products Limited**
Hubbard A2L Industrial monoblock range

**HIGHLY COMMENDED:**
**Beijer Ref UK & Ireland**
SEC (Sustainable Energy Controller)


## Commercial Heat Pump Product

**WINNER: REFRA; Absolutely Chilled Ltd**
Refra Propane Heat Pumps | Standard Line: Improved COP

**HIGHLY COMMENDED:**
**Carrier Solutions UK**
Toshiba Universal Smart X (USX) Series Edge Modular Heat Pump


## Domestic Heat Pump Product

**WINNER: Qvantum Energy Technology**
QE Exhaust Air Heat Pump

**HIGHLY COMMENDED: NIBE**
NIBE S735 Exhaust Air Heat Pump (EAHP)


## Air Conditioning Product

**WINNER: Fujitsu General Air Conditioning UK**
J-VS Mini VRF

**HIGHLY COMMENDED: Klima-Therm**
Rhoss POKER290 distributed by Klima-Therm


## Heat Pump Installer

**WINNER: R A Brown Heating Services**

**HIGHLY COMMENDED: IMS Heat Pumps**


## ACR Contractor

**WINNER: Forest Group**

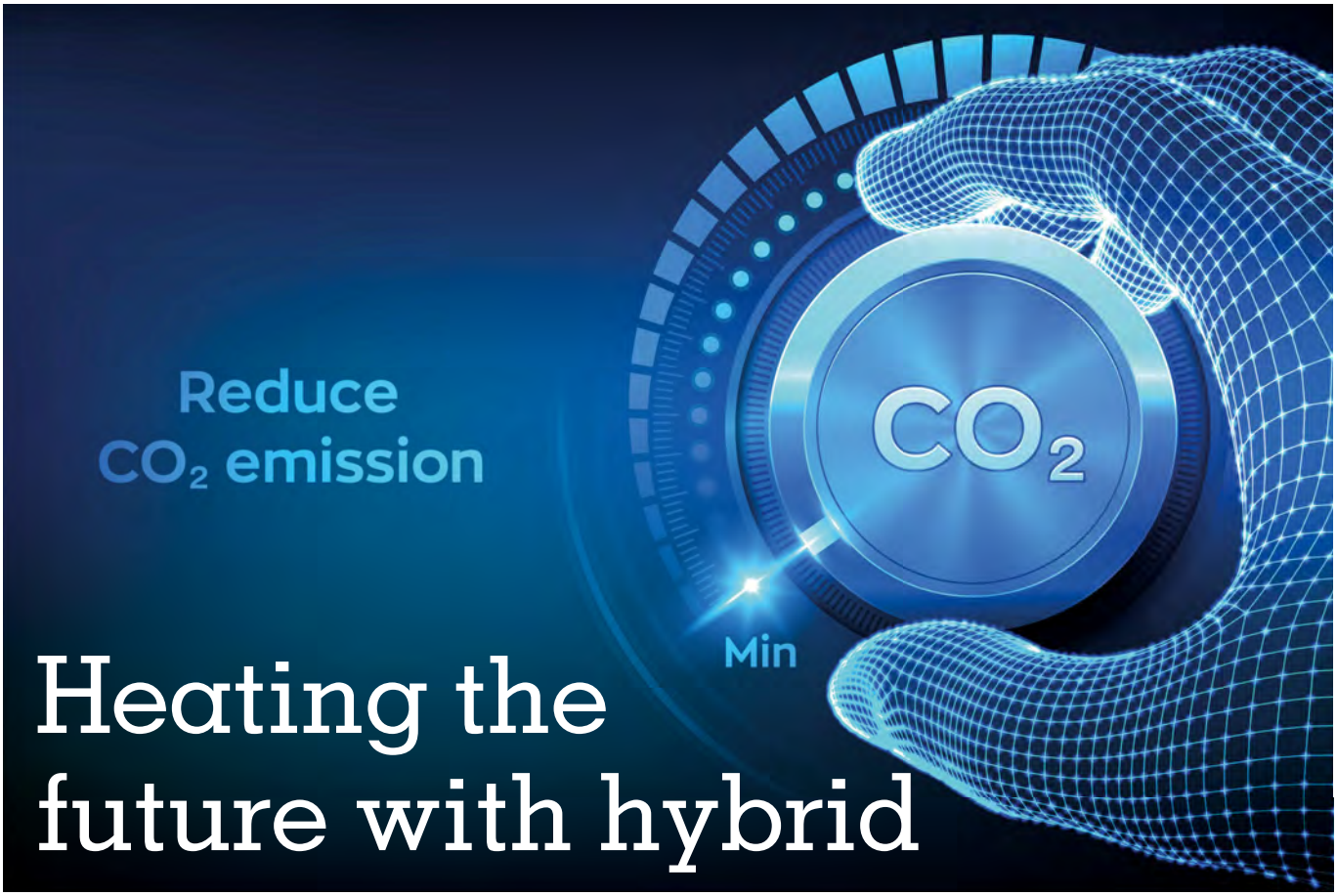
**HIGHLY COMMENDED: SURE Solutions**


## The Phil Creaney ACR Champion 2025

**WINNER: Kevin Glass FIinstR**
Managing Director of Bitzer UK

**To read more about the National ACR & Heat Pump Award 2025 Winners and Highly Commended, visit:**

**https://heyzine.com/flip-book/NACRA_WINNERS_2025**




# Heating the future with hybrid

**Martyn Bridges**, Director of External Affairs at Worcester Bosch, looks at the benefits and challenges of adopting hybrid heating systems.

The UK faces a significant challenge in its quest to achieve net zero emissions, with home heating at the heart of the issue. Currently, most homes rely on gas or oil-fired boilers, while only around 1% of homes have made the switch to heat pumps. Though transitioning to heat pumps is increasingly feasible, adoption rates remain frustratingly below Government targets of 600,000 annual installations.

For millions of households, hybrid heating systems could provide a practical and accessible solution, bridging the gap between traditional boilers and low-carbon alternatives. Let's explore:

## What are hybrid systems

Hybrid heating systems combine a boiler and an air or ground to water heat pump. This combination allows homes to benefit from the efficiency and sustainability of heat pumps without the need to entirely replace existing heating infrastructure.

Within a typical hybrid setup, the heat pump handles the majority of the heating load (up to around 80%), while the boiler is used for specific tasks such as providing hot water or operating during extremely cold weather. For example, in Scotland's recent sub-zero temperatures of -12°C, the boiler would provide additional heating capacity to ensure comfort.

Martyn Bridges, Director of External Affairs at Worcester Bosch

Hybrid systems are particularly suited to the UK housing stock. Many homes, particularly those built within the last thirty years, have radiators and microbore pipes designed for high temperature water from boilers. These features can make transitioning to low temperature heat pumps disruptive and expensive. By integrating a heat pump with an existing or new boiler, hybrid systems overcome many of these barriers while retaining the familiarity of traditional heating setups.

## The benefits of hybrids for consumers

For homeowners, hybrid systems offer several practical advantages:

1) **Minimal disruption:** Unlike fully switching to a heat pump, installing a hybrid system doesn't require significant changes to existing heating infrastructure. There's normally no need to resize radiators or try and find a location for a hot water storage cylinder, making the installation process quicker and less costly.

2) **Familiar operation:** One of the main challenges of heat pump systems is the need to adjust to constant low temperature heating. Hybrids, on the other hand, allow customers to continue using their heating systems in much the same way they do now. This reduces the behavioural shift that may otherwise be required, making hybrid systems a more appealing option for many.

3) **Efficiency and cost savings:** Hybrids prioritise the use of the heat pump, with a controller determining the most efficient energy source based on factors like outdoor temperature, energy costs, and grid demand. This optimisation enables reduced carbon emissions while keeping running costs competitive.

4) **Flexibility during extreme weather:** For colder climates or during harsher winters, hybrid systems provide additional peace of mind. When the heat pump alone cannot meet the demand, the boiler seamlessly supplements the system to maintain consistent warmth.

## Hybrids role in the path to net zero

The UK Government has ambitious net zero targets, and decarbonising home heating is critical to achieving them. While fully renewable solutions like heat pumps offer the highest level of carbon reduction, hybrid systems provide a more practical and scalable approach in the short to medium term for many.

A hybrid system can reduce a home's carbon emissions by up to 80%, a significant improvement compared to traditional boilers. The reduction is crucial for households that are not yet ready for or able to adopt fully renewable solutions.

Moreover, hybrids alleviate stress on the electrical grid. Heat pumps rely on electricity, which is already under increasing demand as the UK transitions to renewable energy sources. Hybrids mitigate this by using gas or oil during peak demand, ensuring a stable and reliable energy supply.

## Challenges to adoption

Despite their advantages, hybrid systems remain underutilised in the UK compared to other European countries, where they are often the first choice for heating upgrades. A major reason for this disparity is the lack of financial incentives.

"BY COMBINING THE EFFICIENCY OF HEAT PUMPS WITH THE FAMILIARITY OF TRADITIONAL BOILERS, HYBRIDS PROVIDE A PRACTICAL AND SCALABLE SOLUTION TO REDUCING CARBON EMISSIONS ACROSS MILLIONS OF HOMES."

In Europe, many Governments provide subsidies for hybrid systems, making them more accessible to homeowners. In the UK however, the Boiler Upgrade Scheme (BUS) only supports full heat pump installations, leaving hybrids without comparable financial backing.

Until recently, there was also no way to register hybrid installations with the Microgeneration Certification Scheme (MCS), a requirement for renewable energy initiatives. This has now changed and the Government is reportedly considering support for hybrids in their 2025 review of the BUS.

Another barrier is the current cost imbalance between gas and electricity. Electricity is approximately four times more expensive than gas in the UK, making the running cost of hybrid and heat pump systems less appealing to consumers. Rebalancing energy prices and introducing additional incentives, such as council tax reductions for greener homes, could help drive adoption.

## The potential of hybrids

Hybrid systems are not just a stopgap solution; they represent a forward-thinking approach to balancing environmental goals with practical realities. By reducing emissions significantly while utilising existing infrastructure, they offer an accessible way for millions of UK households to contribute to the country's decarbonisation efforts.

Policymakers have a critical role to play in unlocking the potential of hybrid systems. Providing financial support for hybrids, addressing the energy price disparities, and increasing public awareness of their benefits could accelerate adoption and make a meaningful impact on the UK's net zero strategy.

For homeowners, hybrids offer the opportunity to embrace greener technology without the need for disruptive change or drastic shifts in heating habits. They combine the best aspects of traditional boilers and heat pumps, providing comfort, efficiency, and flexibility in one package.

## Going forward

As the UK strives to achieve its net zero targets, hybrids present a compelling solution. By combining the efficiency of heat pumps with the familiarity of traditional boilers, hybrids provide a practical and scalable solution to reducing carbon emissions across millions of homes.

While challenges such as financial incentives and energy costs need to be addressed, the potential of hybrids makes them an important transitional technology. With the right support from policymakers and increased awareness among consumers, hybrid systems could have a crucial role in the future of home heating, helping the UK move closer to its goal of a greener and more sustainable future.


Info
**www.worcester-bosch.co.uk/hybrid-systems**

# Samsung Climate Solutions supports community-led housing project with heat pump technology

Glenvale Park in Wellingborough, UK, is a new neighbourhood being built with social value at its core. We learn how the new neighbourhood was created and how it complies with the amended Part L building regulations, which cover the conservation of fuel and power.

Supported by funding from Homes England, a range of national developers have been enlisted to deliver the new neighbourhood. Six housebuilders have also been given responsibility to develop an area of the new neighbourhood to create a vibrant and high-quality development that meets the needs of a diverse community.

One of which is social housing provider Stonewater. Infrastructure, construction and property services United Living New Homes is delivering the 148 mixed-tenure homes and apartments that feature within Stonewater's dedicated area. These will comprise of two, three and four bedroom houses, and one and two bedroom flats, worth £23 million in total[1].

Seventy-four of the new properties on this site will be available for social and affordable rent. There will also be 35 new homes available for shared ownership and 39 offered through the Rent to Buy scheme[1].

## Cutting edge homes

The homes needed a source of heating and hot water that would meet residents needs and comply with the amended Part L building regulations that cover the conservation of fuel and power.

Samsung Climate Solutions air source heat pumps were selected to achieve this, specifically the Samsung EHS Monobloc R32 Heat Pumps, both 5kW and 8kW.

**Rhys Bevan**, Environmental Sustainability Business Partner (Development) at Stonewater, said: "Since April of 2021 Stonewater has been committed to ensuring that all new Land and Build schemes were only approved if developed to an off-gas standard[2]. Air Source Heat Pumps offer a reliable and cost-effective way for us to manage this transition to off-gas[2] as they are easy to integrate into designs and are easy for our customers to operate.

"Additionally, by building to these off-gas[2] standards now, we reduce the need for retrofitting off-gas[2] systems in the future, meaning the lifetime costs of these homes is reduced by building for the future now."

Samsung heat pumps form part of a wider picture to achieve Stonewater's ambitious commitments. As well as air-source heat pumps, the development will also incorporate electric vehicle (EV) charging points at designated plots across the site.

## Installing the heat pumps

Building services contractor, Briggs & Forrester Living was hired to install electrical and plumbing services to the properties, including the heating systems. **Graham Brooks**, its Housing Director, stated: "Samsung's heat pumps compact and light design made them quick and easy for installation. This also makes them ideal

Houses in Glenvale Park

for built up areas and critical in a project of this scale where time is of the essence.

"This was one of the first projects we have worked on since the amendments to Part L. Working with new technologies does come with nuances. The Samsung team were always quick to respond to our queries and came to the site to offer training and technical support."

## Supporting the supply chain

This is a large site with multiple projects being delivered at the same time which means sticking to tight timeframes is critical. For all parties involved, having a reliable supplier that could help achieve this was essential.

**Geoff Bown**, Project Manager at United Living, said: "In a project of this scale, reliability is number one on the priority list. We need to know that suppliers can meet supply demands and timeframes, that they are available for any support we require and that ultimately, once we fit the products the residents will live in homes with reliable heating systems. With Samsung, we found this.

"Their air source heat pumps have multiple benefits for residents, including that they can connect to Samsung's SmartThings app[3]. Once connected residents can use the app to control the connected devices and monitor their energy usage. There will be a learning curve for new residents, but training will be provided to them."

## Maximising the benefits for residents

Training is critical to maximise the benefits for residents, as Rhys Bevan continued: "We recognise that these off-gas[2] solutions are new to many of our customers and as such we provide support and advice around how to make the most efficient use of their home and heating system.

"Samsung has been helpful with the educational aspect to Stonewater and our customers, providing in-person training as well as online overviews for different team members."

**Sunny Vashisht**, Business Development Manager at Samsung Climate Solutions said: "Our heat pumps have been critical to delivering comfortable homes to the new residents at Glenvale Park. While we have designed our heat pumps with both the installer and the end-user in mind, for residents to feel the true benefits, training is vital. This means installations need to be made effectively and residents need to know how to use their heat pump.


**An installed Heat pump in Glenvale Park**

"Training continues to be a core priority for us, with training centres in Manchester and Chertsey. These opportunities for installers to learn are critical and it has been great to see that Stonewater, United Living, and Briggs & Forrester have recognised this too, and invested in ensuring that each person has the resources they need to do the job effectively. So, when residents do move in, they will quickly get used to the new systems in their home and feel comfortable living there."

## The bigger picture

Once complete, Stonewater's homes will form part of the wider development consisting of 3,000 new homes, of which 675 will be affordable housing.

The new community will also have access to a range of amenities including a 25,000 sqm business park, a local centre with retail, food and drink venues, two primary schools and a nursery, as well as a community hub and over 200 acres of parkland. The new neighbourhood will be well connected, serviced by an excellent road network, the train station only a five minute drive away and five airports, including Heathrow and Birmingham within a 70 mile radius.

As well as great amenities and transport links, social value has been at the heart of this project. The developers have calculated the positive impact the site will have on the community. For every pound spent during construction, the development will generate £2.03 of social value for the local community, due to total more than £1.6bn once it has been built.

On top of this, 900 jobs and apprenticeships have been created during the construction. After completion, it is anticipated Glenvale Park will create 3,000 new jobs and result in a total economic impact of almost £1.5bn[4].

**https://samsung-climatesolutions.com**

**Source**

1. https://unitedliving.co.uk/case-studies/glenvale-park-wellingborough/
2. Off-gas refers to using heating systems such as air source heat pumps that operate using electricity instead of natural gas directly. Notwithstanding that depending on your electricity provider, electricity used to operate the heat pump can be derived from gas.
3. Wi-Fi connection and Samsung SmartThings application account are required. Wi-Fi Kit to be ordered separately. Requires iOS 10.0 or later & Android 5.0 or later.
4. https://tinyurl.com/2dmpwnd9


## 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**

# River Thames to help power University of East London's Net Zero campus

The University of East London (UEL) is extending its strategic partnership with global technology company Siemens in a contract that will see the business design and install a Water Source Heat Pump (WSHP) to help power its net zero campus of the future.

**Ariel photo of the docklands campus**

The new WSHP is set to be the largest fitted at any university and will power the university's Docklands Campus Library and Royal Docks Centre for Sustainability buildings, replacing existing gas boilers – and together with campus existing green energy infrastructure, achieve carbon zero in these spaces.

Submerged in the River Thames, the closed-loop system will use a series of pipes to extract natural heat from the water in the Royal Albert Docks, providing a cost-effective heating system which will reduce annual $CO_2$ emissions by 258 tonnes without removing vast quantities of water from the river.

The system is scalable to allow the university to extend in the future similar heat pump systems across the Campus and the wider Royal Docks – the only Enterprise Zone in London – and is part of the long-term partnership with Siemens, which is supporting the university's transition to net zero by 2030.

The strategic partnership, which was formed in 2022, has already seen Siemens deploy a variety of decarbonisation technologies including solar PV, Building Management Systems and EV charging infrastructure across the university campus. In addition, Siemens is using its Building X technologies and data analytics to allow UEL to better understand its energy consumption and drive research and enterprise programmes.

UEL has reduced its $CO_2$ emissions and carbon-producing energy consumption more than any other modern London university already, and by 2026 will achieve the lowest emissions per student in the UK – putting it on track to achieve its 2030 net zero targets.

The partnership is providing a clear, replicable blueprint for sustainability. As well as saving the university over £500,000 per year in utility costs and reducing emissions by over 1,000 tonnes annually, the partnership has driven a unique range of successful green employability, enterprise and research initiatives including student internships, MSc sponsorships, hackathons, and the creation of a 'Living Lab' for training and research on sustainability.

This project directly supports the Mayor of London's vision for a greener, more sustainable capital, advancing his commitment to cleaner air, renewable energy, and achieving net zero by 2030.

Mayor of London, **Sadiq Khan**, said: "London is leading the way in the fight against climate change, and projects like this pioneering partnership between the University of East London and Siemens are key to our city's transition to a greener, more sustainable future. By harnessing the power of the River Thames to heat university buildings, this initiative demonstrates how innovation and collaboration can drive real progress towards net zero. It not only reduces carbon emissions but also sets a powerful example of how London's institutions can embrace cutting-edge, clean energy solutions to build a better, fairer and greener city for all Londoners."

**Andrew Smyth**, Head of Sustainability for Smart Infrastructure Buildings, Siemens UK and Ireland, said: "Decarbonising heating systems is a critical step towards achieving net zero carbon emissions. The University of East London has a fantastic resource in the Thames, right on its doorstep. Harnessing renewable power from the water allows it to take huge steps towards its net zero goals.

"The investment is underpinned by our long-term strategic partnership. And it demonstrates how data-led insights of buildings and energy consumption provide heightened confidence in deploying large-scale renewables technologies like Water Source Heat Pumps. The programme is setting the blueprint for how sustainability can be a catalyst for fantastic collaboration and innovation between businesses and universities."

Building X is Siemens' digital building platform designed to digitalise, manage, and optimise building operations. It aims to enhance user experience, increase performance, and improve sustainability. Building X integrates various applications and services, including energy management, security management, and building automation, to create a unified data environment that enhances accuracy and efficiency.

**www.siemens.com**

# WOMEN IN THE HEAT PUMP INDUSTRY

Best known in the industry as the Treasurer and a Director of the Ground Source Heat Pump Association (GSHPA), **Andrea Ellison** shares her fascinating journey in the heat pump industry. From being an innovative risk-taker to growing a thriving family business and playing an integral role in the ongoing success of GSHPA, Andrea also discusses her thoughts on inspiring women to enter the industry and the challenges it faces.

At the age of 13, I started working part-time on a greengrocer's stall in Burnley Market Hall. That experience gave me confidence in dealing with the public. Coupled with my first full-time job as an office junior in a printers and stationers, I gained a solid foundation for my career in administration and accounting.

I later worked as a manager in the accounts office of a large national brewery before becoming a maths teacher and eventually a headmistress. It has been a diverse but interesting career path, providing me with a wealth of skills and opportunities.

I became involved in the heat pump industry quite by accident. As mentioned, I was working as a headmistress at a private school. My husband, Geoff, had his own environmental consulting and engineering company. At the time several of his projects were on hold due to a shortage of drillers, so we decided to set up a drilling company.

It was a brave step to put our house on the line for a completely new venture, but that was 20 years ago, and we haven't looked back.

As environmental drillers, we started off by installing environmental management systems on landfill sites including methane extraction for renewable power generation. We then moved into boreholes for water supply, including treatment. It was fortuitous that we were based in North Wales, which is the largest market for private water supplies in the UK.

Moving into ground source drilling was a logical step and we drilled our first ground source borehole in 2008.

Andrea Ellison, Treasurer and a Director of the Ground Source Heat Pump Association (GSHPA)

At the time, I was still teaching, but I always played an active role in managing the accounts. As the business continued to grow, I decided to leave teaching to take on a full-time role to help drive the business forward. I quickly realised that ground source sector was the future for sustainable heating and cooling and became the company's point of contact with the Ground Source Heat Pump Association (GSHPA).

I thoroughly enjoyed interacting with the GSHPA, became chair of their marketing group followed by treasurer and then a director in 2020.

Today, we have five environmental companies and 34 employees — what started as an idea over an evening meal in the kitchen has grown into a thriving business.

## What does your current role involve?

I don't have just one role — no two days are alike! I start my mornings by checking my phone diary to see what's planned for the day.

I oversee the finance and administration for five businesses, which I own and run with Geoff and our two sons, Ben and Sam. These include:

- **Ellison Environmental Services Ltd** – an environmental consultancy
- **Dragon Drilling (Landfill) Ltd** – a landfill drilling business
- **Dragon Drilling (Water) Ltd** – specialising in water, ground source, and monitoring boreholes
- **Dragon Renewable Energy Ltd** – offering complete renewable energy packages
- **Envirohire Ltd** – an environmental engineering company, which is about to launch a patented ground loop testing system.

As the Treasurer and a Director of the Ground Source Heat Pump Association (GSHPA), I work closely with the other three directors as well as Stephen Bielby, our secretariat, and Ken Gordon, our CEO. I manage the day-to-day bookkeeping and accounts as well as organise and host working group meetings, assist Stephen with events, and represent GSHPA

members at various exhibitions, shows, and industry events.

For the past three years I have worked alongside some of the GSHPA members, Charlie Allardyce of Landrilling NVQ and MCS to develop a drilling standard and audit. It has been a tough challenge at times, but our audit is now developed to match the requirements of the standard. All drillers, including non-members, can book an audit which we expect to become mandatory this year. This means that just as an installer must be registered with MCS for the customer to receive the BUS scheme, so too will the driller.

This is a really important step within our industry as drilling becomes better regulated and standards are in place. Each audit lasts for two years, it is not an annual one, and details can be obtained from **https://gshp.org.uk/drilling-audit** or by emailing **rebecca.woodward@gshpa.org.uk**.


**Andrea and staff members of Dragon Drilling, Seb, Arwel, and Simon, collecting an award**

## What do you see as the challenges facing the industry?

The cost of electricity must come down, and the UK Government and devolved national Governments must actively support and encourage large financial institutions to invest in ground source infrastructure. We are on that path now, and once the new Heat Network Regulations are finally in place — covering shared ground loops and ambient heat networks — I believe there will be a significant increase in the number of heat pumps installed. Heat pumps will and must become accessible to everyone, rather than just the few, as is currently the case.

## Did you have any mentors or anyone who inspired you?

Yes, five that have been my inspiration.

Firstly, my parents, who always told me, "There's no such word as 'can't.'"

Two of my teachers from my high school, Janet Sautejeau and Jim Taberner, who encouraged me to believe in myself, do the right thing, and aim for my goals. We have stayed in contact for the 46 years since I left school, and we even spent a weekend together last July.

And last, but not least, my husband who, for 43 years, has always encouraged me in whatever path my career has taken.

**Andrea's friends, colleagues and inspirations, teachers Janet Sautejeau and Jim Taberner**

## What would you say to other women considering joining the heat pump industry?

Go for it!

When I first started in this industry, I was very much "a woman in a man's world." At my first official heat pump meeting, I was asked if I was lost and in the correct room! How times have changed.

At GSHPA, we have four directors, three of whom are women. I have watched the industry embrace an increasing number of women across all levels. Our current Government minister for energy is a woman and this shift should be celebrated, as it shows how many opportunities exist for women in this field.

I believe this shift is becoming more evident. I was proud to have recently been recognised in the prestigious Trade Association Forum (TAF) 2025 Power List, which celebrates the most influential leaders in the trade association sector.

The GSHPA kindly mentioned in a recent post: "Andrea's inclusion highlights her exceptional leadership and dedication to driving positive change within the sector. Her work is an inspiration to women across the industry, and her recognition serves as a powerful reminder of the importance of empowering women in leadership roles."

**Andrea, along with her husband Geoff and GSHPA Chair Laura Bishop, attending the annual GSHPA charity dinner**

## What do you like to do outside of work?

Family comes first. My three children and five grandchildren are my priority whenever I have free time.

Geoff and I love travelling, and we have several trips planned for 2025, including two conferences in the USA. I also enjoy socialising with family and friends, visiting my mum and stepfather in Cyprus, organising local and GSHPA charity events, and — when time allows — getting out my knitting needles!

# Fafco partners with Pure Thermal to bring IceBat Cold Thermal Energy Storage to the UK

On the 18th of March, **Juliet Loiselle**, Publishing Editor of Heat Pumps Today attended the UK launch of the partnership with Fafco, a thermal energy storage solutions manufacturer and Pure Thermal as its exclusive Sales & Technical Partner/Distributor for the UK and Irish markets.

IceBat, a new thermal energy storage solution, now brought to the UK by Fafco and Pure Thermal provides cooling resilience, peak shaving and cost & carbon savings. With over 1,400 operational IceBat systems across Europe, Fafco is addressing the increasing demand for cost-effective and resilient cooling solutions within the UK.

The system is described as an advanced Cold Thermal Energy Storage (CTES) Phase Change System that enhances cooling system efficiency while significantly reducing operating costs and carbon emissions.

By leveraging low-cost off-peak electricity to create and store cooling energy, the solution provides a fast-reacting and highly flexible alternative to conventional electrical battery storage making it particularly suited to the UK's evolving energy landscape.

**Key benefits of the IceBat system include:**

**Provides cooling system resilience**
Reduces the need for oversized chillers/plant while ensuring peak or contingent demands can be satisfied by maintaining predetermined cooling capacity levels for use at any time.

**Enables cooling capacity peak shaving with no additional power supply**
Increase on-site cooling capacity from existing systems by accumulating thermal capacity during low demand periods by applying chillers to charge.

**Reduces operating costs via accessing variable/lower electricity tariffs**
Maximises and enables the use of low-cost electricity by operating chillers/cooling plant to charge when lower cost tariffs are available.

**Provides application flexibility with a complete range of kWh capacities**
Can be applied to a wide range of applications with Thermal Battery capacities from 150kWh to 18,000kWh.

**Enables carbon reductions to be achieved from cooling systems**
Improves the efficiency of existing cooling systems by reducing emissions via operating cooling plant when low carbon input electricity is available.

**Delivers application flexibility & seamless Integration**
Works with existing chiller/cooling plant without the requirement for independent cooling plant enabling greater flexibility to be delivered from existing assets.

**Enables the optimisation of existing cooling systems**
The application removes the risk of low demand cooling plant on/off cycling whilst also enabling plant to operate during high efficiency lower temperature overnight periods.

**Provides scalable performance**
Close control provides variable charge and discharge capability precisely modulating energy transfer with a minimum output flow temperature of 0.5°C.

**Compact phase change technology**
The storage of thermal energy via phase change is both highly efficient and practical with the space required being 8 x less than if only chilled water accumulation tanks were utilised.

**Suitable for both retrofit & new Installations**
Enhances the performance of existing cooling systems within retrofit applications and integrates seamlessly into new project designs enabling cooling plant capacity to be reduced.

**Meeting the UK's growing energy storage needs**
As energy costs fluctuate and grid resilience becomes increasingly critical, the demand for cost-effective thermal storage solutions is rising. Unlike traditional electrical battery storage, IceBat looks to provide an economical and efficient way to store and utilise energy for cooling applications.

"We're seeing increasing requirements for load shifting and also capacity management within cooling applications' commented **Garry Broadbent** of Pure Thermal, continuing "having developed a strong relationship with Fafco, and being extremely impressed with their proven track record, we are really pleased to now be appointed as their UK partner as we see significant potential for Cold Thermal Energy Storage in the UK & Ireland."

With a 40-year track record and an installed capacity exceeding 3.6GWh of Cold Thermal Energy Storage, IceBat is a proven solution which is now available in the UK with the capability to deliver immediate benefits for both industrial and commercial cooling applications.

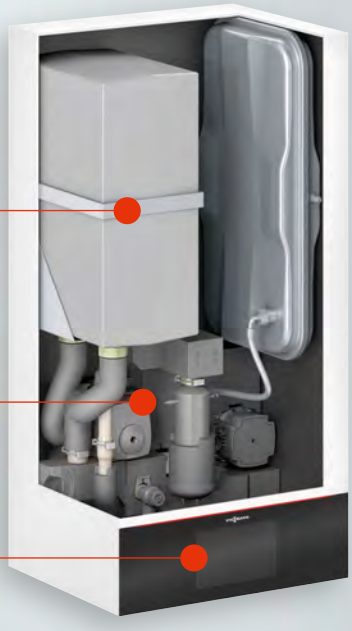
**www.purethermal.co.uk/cold-thermal-energy-storage/**

# VITOCAL 150 / 151-A AIR SOURCE HEAT PUMP

### INTEGRATED DEFROST BUFFER
**Save time** as the buffer is already sized to defrost the outdoor unit every time.

### HYDRO AUTOCONTROL
**Save space** and simplify installation with the unique 4/3 way valve design.

### ONE BASE CONTROL
Extremely easy and **intuitive commissioning** process.



- \+ Rated heating output 2.1 to 14.9 kW
- \+ CoP (coefficient of performance) up to 5.0
- \+ MCS SCoP up to 3.14 at 65°C
- \+ Up to 70°C flow temperature for high hot water comfort
- \+ Up to 10 year warranty

ViGuide installer app for commissioning, monitoring and remote support

ViCare app for homeowner control

GLOBAL WARMING POTENTIAL **R290** GWP 0,02 (GWP100 gem. IPPC AR5)

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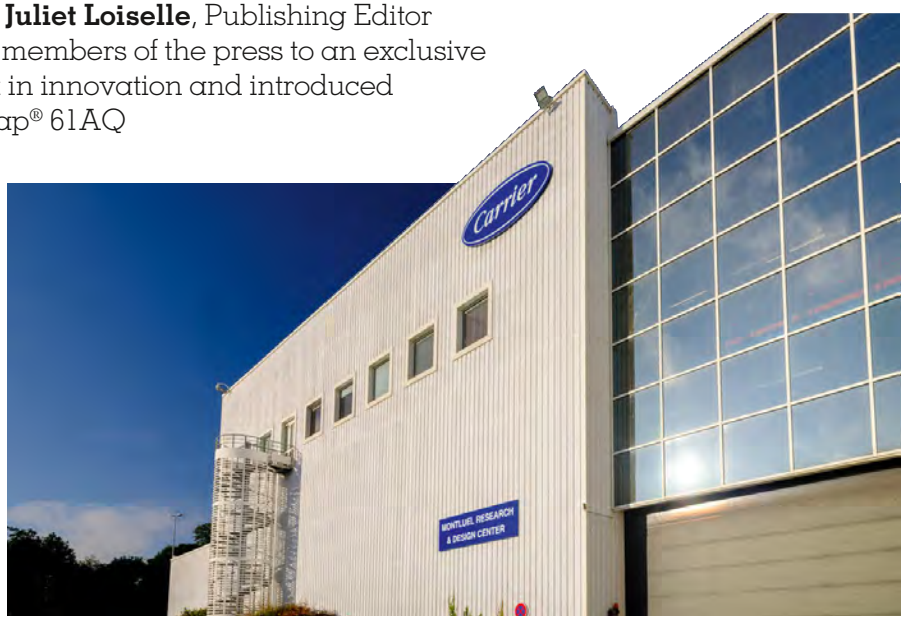
- \+ VPlus loyalty scheme rewards
- \+ Access to extended warranties
- \+ Pre-sales design service

Sign Up Now

# Press trip to Lyon for the launch of the Carrier R-290 High-Temperature Heat

In January 2025, Carrier welcomed **Juliet Loiselle**, Publishing Editor from Heat Pumps Today, and other members of the press to an exclusive event in Lyon, showcasing its latest in innovation and introduced its newest heat pump, the AquaSnap® 61AQ




Carrier's Montluel facility in Lyon serves as one of the company's four centres of excellence across Europe. Spanning 7,500m², the research and development laboratories boast state-of-the-art equipment capable of simulating a wide range of operating conditions encountered by Carrier's heat pumps. With 15 test rooms equipped with over 1,200 measurement sensors, the facility provides rigorous testing.

The AquaSnap® 61AQ is Carrier's first high-temperature air source reversible heat pump for commercial applications that uses R-290, a natural refrigerant with nearly-zero Global Warming Potential (GWP).

The Heat Pump has been specifically designed and optimised for R-290, combining Carrier's innovative engineering with features that deliver high temperatures, increased energy efficiency, noise reduction, and enhanced operational performance. It can deliver high-temperature heating up to 75°C at outdoor temperatures as low as -7°C and operates efficiently in extreme conditions down to -25°C.

On reducing Environmental Impact, **Didier Genois**, Vice President and General Manager, Carrier Commercial HVAC, EMEA says "With its advanced component design and ultra-low GWP R-290 refrigerant, the AquaSnap® 61AQ helps businesses reduce energy bills while cutting carbon emissions."

### Applications

- High-temperature heating, multi-zone comfort heating, and domestic hot water with built-in legionella prevention.
- Suitable for new build projects and modernisation and retrofit projects.
- Can deliver tailored solutions for a large range of applications including hotels, healthcare facilities and collective dwellings.

### Technical Innovations

- An air-source reversible heat pump with heating mode in the winter and cooling mode in the summer. It produces domestic hot water (DHW) all year long and has a legionella prevention cycle.
- Carrier developed a design around R-290 properties and integrated advanced inverter compressors and variable-speed fans for optimised efficiency and durability.
- The unit features noise reduction technologies for quiet operation in sensitive environments.

### Safety

- Low refrigerant charge – less than 4kg/circuit.
- All refrigerant components are grouped into a dedicated insulated enclosure.
- Drive, pump and fans non-ignition source and placed out of the flammability zone and no brazing connections outside box limit the risk of refrigerant in the atmosphere.
- Refrigerant separator and water anti-freeze relief valve to avoid refrigerant in water loop in case of leakage. Optional leak detector sensor for quick alert in case of leakage.

For full details visit:
**https://bit.ly/42gAoVT**

# A WINNING BUSINESS

R.A. Brown Heating Services, the recent recipient of the prestigious Heat Pump Installer Award at this year's National ACR & Heat Pump Awards, share their history and what they believe, makes them stand out.

Prior to installing ground and air source heat pumps in 2007, the company was a successful plumbing and heating business, initially serving a more urban customer base in Norwich. They gradually expanded to barn conversions and other rural properties by specialising in underfloor heating. The decision to install heat pumps stemmed from Richard Brown's desire to work at the cutting edge of the industry, offering what he sees as the best in technology to customers. This ethos continues today and has been instilled within the current workforce, from senior management down to new apprentices.

## Showroom premises: Allowing customers to see and understand working products

In 2012, the company moved into showroom premises, having previously operated from a home office. Since then, it steadily grew from 7 employees to an expansive workforce of 22 today. Richard felt strongly that prospective customers need to see these technologies and understand how the systems would fit into their properties. In the showroom, they can view mechanical ventilation heat recovery (MVHR) systems, radiators, underfloor heating (UFH), ground source heat pumps (GSHP) from NIBE & Stiebel Eltron, air source heat pumps (ASHP) from NIBE, Stiebel Eltron & Ariston. The showroom also has working displays of MVHR, ASHP, UFH allowing the customer to experience these products in action and they can practice using controls. This adds credibility and demonstrates that the company is a professional establishment.

## Supporting and educating the industry: CPD events and raising awareness of heat humps

R A Brown Heating Services strongly believe in supporting and educating the industry. In 2025 they reinstated their CPD events which had a brief hiatus due to Covid. **Dax Parsons**, General Manager hosted the events for Architects and Property Developers. The events had support from suppliers who also gave presentations, which allowed the delegates to understand more about the technologies and how they could be specified to fit with their client's needs and objectives.

**Louise Howlett**, Commercial Director has taken the lead on being active and networking within the industry. She is passionate about raising awareness of heat pumps and being a positive voice in the heat pump industry. Over the last couple of years, amongst other things, she has been involved in roundtable discussions with politicians and invited an MP who was a member of the Environmental Audit Committee to our showroom to discuss the industry and government initiatives.

All these opportunities are seen as small building blocks in being able to promote the heat pump industry and for homeowners to be informed to help them make the right decisions.

## Staff development

They continue to maintain their aspired high standards by ensuring staff are fully trained. Both in terms of apprenticeships, manufacturer product training and health and safety training. Demonstrating this, their installation team comprises of 9 fully qualified engineers and 4 apprentices. They also have 3 apprentices, who are conducting their NVQ level 3 in Plumbing and Heating, also 1 T-level Student who will be joining them on an accelerated apprenticeship once he has completed his T-level course.

Their staff also have the qualifications to provide advice to new customers and produces technical drawings, assist with site surveys to enable accurate assessment and calculation of heat loads in accordance with the Microgeneration Certification Scheme (MCS), identifying the installation requirements and production of CAD plans. Attending the higher-level technical training for NIBE & Ariston.

**www.rabrown.co.uk**

Team at R A Brown Heating Services LTD

# A look inside Queens Quay's water source district heat pump system

A recent educational visit brought together students from Glasgow Kelvin College and members of the Institute of Refrigeration (IOR) for a behind the scenes tour of the energy centre which includes the UK's largest water source district heat pump scheme.

Located at West Dunbartonshire Council's Queens Quay Energy Centre in Clydebank, the award-winning project was designed and delivered by Vital Energi, with the two water source heat pumps engineered and supplied by Star Refrigeration. The zero carbon industrial heat pumps harness the ambient thermal energy of the River Clyde to deliver low-carbon, more affordable heating to local homes, local government buildings and other organisations. The informative session gave attendees the opportunity to witness firsthand how theoretical concepts translate into a real-world application that addresses today's energy challenges.

The visit was made possible through collaboration between Star Refrigeration, Vital Energi, and West Dunbartonshire Council, with special thanks to Nicky Cowan of Star Refrigeration, Shannon O'Neil of Vital Energi, and Adam Strachan of The Institute of Refrigeration for their expert guidance throughout the tour.

## Sustainable heating at scale

The Queens Quay energy centre houses two 2.6 megawatt ammonia heat pumps, delivering a combined 5.2 megawatts of heating capacity. This system is at the heart of a 5 kilometre district heat network that currently serves local residential, council-owned buildings and other organisations, but has been future proofed to expand throughout the development and bring low-carbon heating to more organisations and residents.

## Natural heating from the local river to the radiator

The heat pump operation is simple in concept. Water is taken from the River Clyde and then passed through a specialised filtration systems designed to remove debris and prevent mussel colonisation. The river water passes through the heat pump system where thermal energy is extracted, cooling the water by approximately 3 degrees Celsius before returning it to the river.

The ammonia heat pumps then boost this thermal energy to produce water at 75°C- 80°C, which circulates through the district heating network to provide heating and hot water to connected buildings. The system was originally designed to produce water at 85°C to accommodate older buildings with smaller radiators, but through upgrades to heat exchangers and radiator sizes in connected buildings, the network temperature has been optimised to operate between 75°C-80°C, therefore improving efficiency.

**Queens Quay District Heat Pump**


Attendees on their tour of Queens Quay Energy Centre

## Efficiency

The system has a high level of seasonal efficiency, which contributes to lower energy costs and higher carbon savings.

The system maximises efficiency through a series of heat exchange stages, including desuperheaters, condensers, and subcoolers, to extract the maximum amount of useful heat from the ammonia refrigerant. Even the heat from the oil used to lubricate the compressors is incorporated into the heat recovery system, as it exits at the same discharge temperature as the refrigerant (110°C) and can be used to heat district water from 55°C to 80°C.

## Climate change at work

One of the interesting facts the hosts revealed during the visit was that the facility has already observed the effects of climate change on the river's temperature profile. Historical data going back 50 years suggested the Clyde would reach maximum temperatures of 18°C to 19°C, but recent measurements have recorded temperatures as high as 21°C.

The real face of climate change is showing, and its impact can be felt in the Clyde's water.

## Future expansion

The project was delivered to support a long-term masterplan and the plans remain in place to expand the network's reach. The energy centre was built with this expansion in mind and the building has space for two additional heat pumps and another thermal storage tank to increase capacity.

One of the truly exciting things about this project is that, as it expands and more heat loads are connected, it will continue to become more efficient, which will lead to lower energy costs and higher carbon savings.

## Technical innovations

The system incorporates several technical innovations to maximise efficiency and overcome challenges associated with using river water. These include:

- Self-cleaning filtration systems that prevent debris and mussel seeds from entering the system. One of the most significant technical challenges in the operation of the Queens Quay heat pumps is this filtration system.
  The system employs a sophisticated three-stage filtration process to ensure smooth operation.
  The first stage consists of mesh baskets submerged in the river that prevent large debris from entering the system. These are self-cleaning, with water jets that spin and eject pressurised water to keep the mesh screen clear of plastic bags and other debris.
  The second stage targets smaller particulates, particularly mussel seeds, which can pose a serious threat to the system. Mussel seeds can grow into a full-size mussels and cause damage to heat exchangers, pipes and other components. The filtration system filters water down to 20 microns and includes a backflush system that returns filtered material to the river.
  The third level of protection is the heat exchanger evaporator itself, which includes automated cleaning systems to prevent the buildup of silt, algae, and other residue inside the tubes.
- Specialised Pumps and titanium heat exchangers. The water abstraction system employs self-priming suction lift pumps situated above the water level. Since pumps excel at pushing water but struggle with initial suction, a vacuum pump is used for priming to bring the water up to the pump. It then just acts like a syphon.
  The heat exchangers use titanium tubes due to the brackish nature of the Clyde water. Each heat exchanger contains approximately 750 tubes that are both internally and externally enhanced to maximise surface area for heat transfer.
  A unique 'spray chiller' evaporator design pumps liquid ammonia to the top of the evaporator vessel and sprays it over the tubes containing river water.
  To maintain efficiency, each tube is equipped with a brush that can be pushed through to clean internal surfaces when flow is reversed, removing accumulated silt and algae that would otherwise reduce heat transfer efficiency.
- The two 900 kilowatt electric motors driving the twin screw compressors are air-cooled and equipped with variable speed drives (VSDs) that serve a dual purpose. They allow for capacity modulation based on demand and they provide a gradual startup that prevents electrical surges.
- A 130,000 litre thermal storage tank that allows the system to operate at optimal efficiency and take advantage of lower nighttime electricity rates.
  During periods of low heat demand, rather than reducing the output of the heat pumps, they continue to run at full capacity and charge the water tank.

When the network requires heat, it is delivered from the tank via a pump, avoiding the need to frequently switch the heat pumps on and off. Often, a jockey pump is used to pump water through the district network instead of the full size pumps in order to reduce energy consumption.

Since electricity is typically cheaper at night, the heat pumps can operate during off-peak hours to generate and store heat. During peak pricing periods, the heat stored overnight can be used to meet demand, allowing the heat pump to remain off. In this type of system, a larger thermal store provides greater flexibility and cost savings.

**Vital Energi - Queens Quay Water Source Heat Pumps**

Queens Quay represents just one of the first water source heat pump projects carried out in the UK, with similar installations in Bristol, Jarrow and Liverpool. These projects demonstrate the viability of water source heat pumps as a key technology in the transition to heat decarbonisation.

With the UK's ambitious targets for carbon reduction, district heating networks powered by renewable sources like the River Clyde are likely to become increasingly common in cities with a river nearby.

As developers at Queens Quay continue to build out the planned 23-hectare development, which is expected to create 1,000 private homes, 200 rented homes and the associated infrastructure to support them, more residents and businesses will benefit from this sustainable city heating network that could serve as a model for communities across the country.

**https://ior.org.uk**

# The Innovation Zone

The guide to what's new for Heat Pumps Today readers, offering vital industry news.
To advertise your product in 'The Innovation Zone' section please contact **victoria.liddington@warnersgroup.co.uk**

## Hamworthy Heating launches its latest Air source heat pump CPD module

Hamworthy Heating, technical experts in commercial heating and hot water products, is pleased to announce it has expanded its CIBSE-accredited Continuous Professional Development (CPD) portfolio with the launch of its latest module - 'Considerations for air source heat pump selection, specification and system design'.

Designed for anyone involved in plant room design, 'Considerations for air source heat pump selection, specification and system design' is divided into four easy-to-digest segments and provides valuable information on selecting and sizing air source heat pumps (ASHP) for both new and existing commercial buildings.

Beginning with an introduction to the main driving forces behind air source heat pumps, the latest CPD discusses the various influencing factors to consider when specifying a heat pump. Designed to offer guidance, participants can learn more about the process of sizing air source heat pumps according to their design, load and intended use. Market drivers such as best practices and government incentives are also addressed.

For more information, please visit:
**www.hamworthy-heating.com**

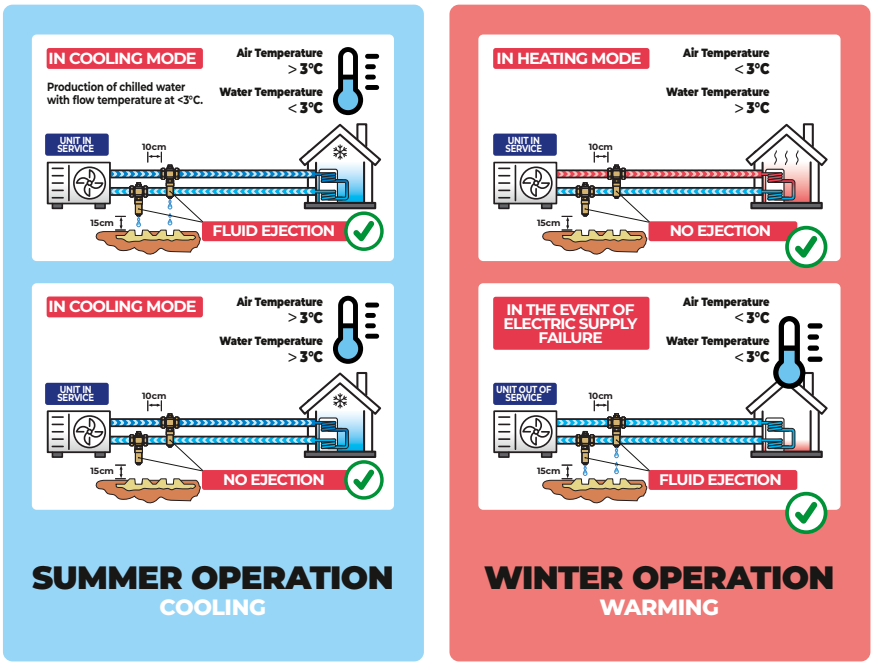
## Banico anti-freeze valves

Introducing the new AFV Anti-freeze valve as part of our renewables range! Designed for use with domestic air source heat pumps.

The Banico Anti-freeze valve maintains water flow within heating and cooling circuits, preventing freezing.

When the water temperature reaches 3°C, the internal sensor activates, allowing water to be discharged from the system. They are designed for single-unit heat pump systems, preventing damage to the machine and circuit components during power off and low temperatures.

Available in 4 sizes:
28mm compression, 1", 1 $^{1}/_{4}$" & 1$^{1}/_{2}$"

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## Fernox launches new Product Selector tool for its expanding renewables range

Leading water treatment manufacturer Fernox, is pleased to announce the launch of its new Renewables Product Selector, designed to provide a fast, easy-to-use single source tool for professionals working with renewable heating systems.

Streamlining the product selection process, Fernox's new Renewables Product Selector tool is user-friendly and intuitive making it easier than ever for heating professionals and engineers to find the right renewables water treatment product for their specific requirements.

Available on the manufacturer's website, users simply provide the project details using the multiple-choice prompts, such the type of heating emitters, the size of the system being treated, and the level of frost protection required. Based on the provided criteria, the intelligent online tool provides instant access to Fernox's water treatment recommendations and product information for each. Plus, users can also request the results are emailed to a chosen address for future reference.

As renewable systems grow in popularity, the new tool provides installers with a valuable resource to identify the most suitable Fernox products for each project, so that heating systems operate efficiently and reliably, ultimately saving on energy consumption and reducing utility bills for householders.

Speaking on the latest launch, **Mike Skivington**, UK & Ireland Sales Director at Fernox commented: "We're delighted to add this useful resource to our website. We recognise the unique issues that low temperature renewable heating systems present and the growing choice of products that are available to address them. As such, we were keen to provide heating professionals with a product selection tool that is helpful, yet quick and easy to use to identify the products that are designed to preserve the health and longevity of renewable heating systems."

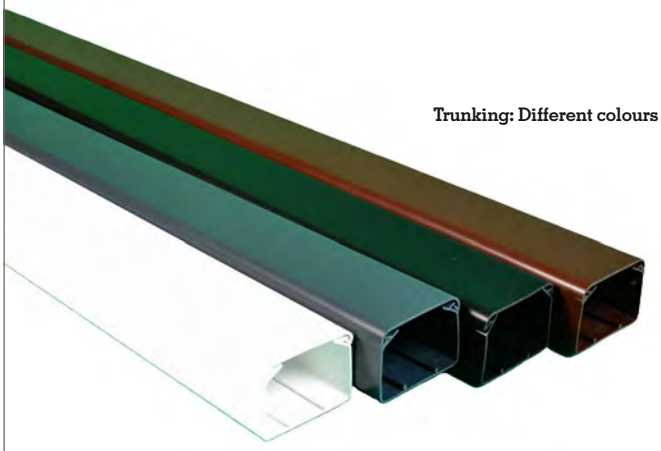
Renewables Product Selector tool

The latest development from Fernox joins an expanding line-up of water treatment products and solutions for heating installers and engineers working on renewable systems, which includes the award-winning heat pump filter – the TF1 Sigma HP, Antifreeze Valves and a range of transfer fluids and cleaners.

For more information, or to try out the Product Selector, please visit:
**www.fernox.com/renewable-solutions-tool**

## StrutFoot Products: Trunking and High Blocks

**Steve Richards**, Managing Director of StrutFoot, tells us about their product range, including A/C trunking which utilises a blend of post-consumer waste and virgin PVC, as well as StrutFoot High Blocks.



Trunking: Different colours

### StrutFast Trunking

We are the only UK manufacturer of A/C trunking, utilising a blend of post-consumer waste and virgin PVC. This allows us to process orders without any waiting time for our customers while keeping our carbon footprint low.

Supplies are available from stock and are offered in White, Black, Grey, and Brown.

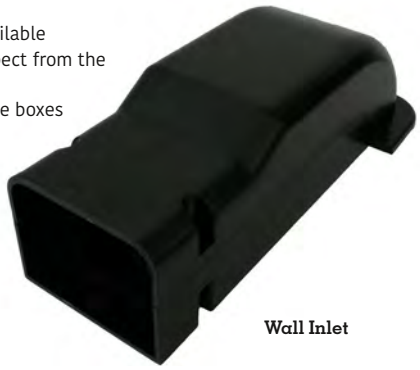
Tee

Custom colours are available upon request, subject to a minimum order quantity (MOQ).

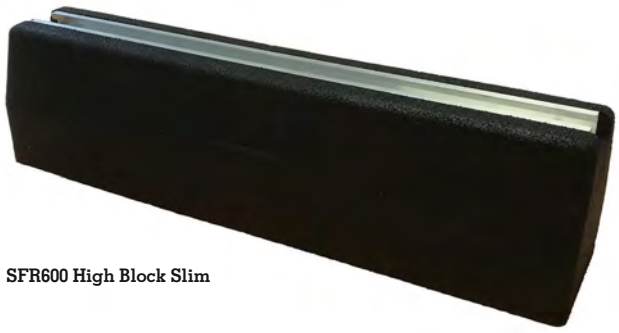
Sizes available: 80x60, 100x60, and 140x90. A full range of necessary accessories is available from stock for each size and colour.

Home branding is available to all our partners, along with the best pricing on the market — GUARANTEED.

- 24/7 Manufacturing meaning we can supply it quicker than you can fit it.
- Square base for sleek design
- Global shipping
- Installation kits also available
- Quality products you expect from the StrutFoot Group
- Fixing kits included in the boxes
- No popping off the walls once installed, stainless steel screws fitted to ensure all accessories stay in place.



Wall Inlet



SFR600 High Block Slim

### StrutFoot High Blocks

The SFR range of recycled rubber feet are designed to support loads on non-penetrative roofs, including pipework, cable management, and small units. The SFR Feet are available with an aluminium channel for high corrosion resistance.

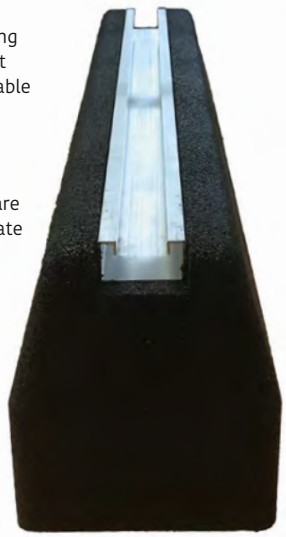
Manufactured using SBR recycled rubber bound with moisture-curing polyurethane pre-polymer, these feet are suitable for internal and external applications in temperatures ranging from -40°C to +80°C.

Specifications include Aluminium Strut-41mm x 21mm, profile compatible with our Strut fixings.

All our high blocks and rubber feet are manufactured in-house in the UK, ensuring no delays in stock availability and prompt order shipments. Home branding is available upon request.

Our High Block feet are specifically engineered for heat pump installation. These feet have a height of 150mm and are manufactured as a single piece to facilitate quick installation. This design permits servicing of the pump from underneath and enhances air flow.

- Quick and efficient customer service
- UK Manufacturing
- Recycled rubber
- Worldwide shipping
- Home Branding available



SFR600 High Block Slim - [Side View]

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