ISSUE 28

HEAT PUMPS TODAY

ESSENTIAL INFORMATION FOR INSTALLERS

REHAU BRINGS ROSSLYN CASTLE INTO THE 21ST CENTURY P20

Apprenticeships: The key to solving the heat pump skills shortage P12

The future of air source heat pumps: Balancing sustainability and noise P14

Cool heads, warm homes: How to handle heat pump complaints with confidence P16

JULY/AUGUST 2025

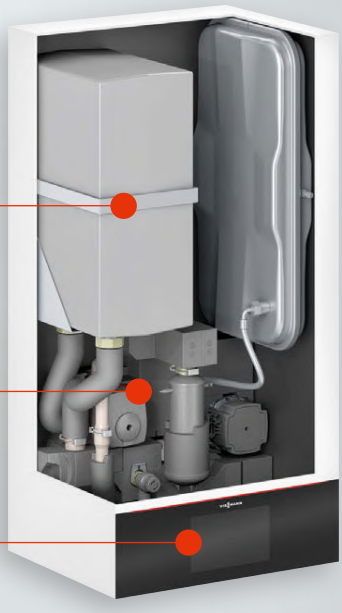
VIESMANN

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

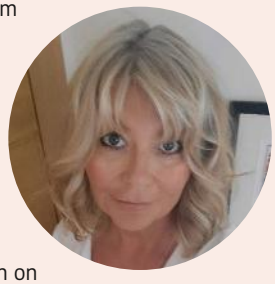
GLOBAL WARMING POTENTIAL **R290** GWP 0,02 (GWP100 gem. IPPC AR6)

Become a Heat Pump Partner and access the following benefits:

+ Qualified heat pump sales opportunities
+ VPlus loyalty scheme rewards
+ Access to extended warranties
+ Pre-sales design service

Sign Up Now

Welcome to the July/August issue of Heat Pumps Today



This month's issue covers some of the Heat Pumps Today team highlights from the InstallerSHOW 2025. We were out in full force catching up with readers and visitors alike. We visited a plethora of exhibitors, who all had exciting new and updated heat pump technologies - read more from page 27.

The out & about section also looks at Hitachi, who kindly invited Victoria Liddington, Sales Manager out to Barcelona to visit the factory for the unveiling of the new air-to-water heat pump range. The newly introduced airH2O 800 series run on the eco-friendly R290 refrigerant - Turn to page 26.

As you know, the ACR Journal and Heat Pumps Today put much stock and effort into promoting training throughout the sector. Not only with the ACR & Heat Pumps Trainee of the Year Awards, which is held on the 4th of December this year in Leeds. But, also, with the bumper Training Supplement bagged with this issue. Many thanks to all the contributors and supporters for their input, helping to create another interesting read.

The next ACR & HEAT PUMPS EXPO is being held in September at Elland Road, Leeds. This event is SOLD-OUT for exhibitors but if you wish to attend, visit **www.acrjournal.uk/regional-exhibitions** to register for your FREE entry pass.

As always, 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

Juliet Loiselle FinstR
Editor/Publisher

CONTENTS

Publishing Editor
Juliet Loiselle CompCIPHE/FInstR
01778 391067
Julietl@warnersgroup.co.uk

Digital Editor
David Crowson
01778 391067
david.crowson@wanersgroup.co.uk

Multimedia Sales Executive
Victoria Liddington
01778 395029
victoria.liddington@warnersgroup.co.uk

Events
Haley Comey
01778 392445
hayleyc@warnersgroup.co.uk

Design
Development Design

Production
Julia O'Hara
01778 392405
production@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

This publication is printed by Warners Midlands PLC
Telephone: **01778 391000**

ACR & HEAT PUMP REGIONAL EXHIBITION

LEEDS

25th September 2025

Leeds United Football Ground
Elland Rd, Beeston, Leeds LS11 0ES

PLATINUM SPONSORS

Bitzer

CDL Cool Designs Ltd

DiversiTech International

GOLD SPONSORS

Air Conditioning Accessories Ltd

Fieldpiece Tools HVACR Pros Trust

Frigo-Bohn Climate Centre

Yellow Jacket

Daikin

Commusoft

kooltech

testo

Sit in on our technical talks with a **FREE** bacon butty

8.45am Climalife: Neil Roberts | **9.10am Yellow Jacket:** Neil Stewart | **9.30am Daikin:** Stuart Turner

REGISTER FOR YOUR FREE TICKET

UK electrical supply chain welcomes ambitious Industrial Strategy, says BEAMA

The British Electrotechnical and Allied Manufacturers' Association (BEAMA) who represent manufacturers of electrical products spearheading the drive to electrification – a sector valued at £14bn – has welcomed the Industrial Strategy as a crucial step in the right direction.

As the UK embarks on the historic task of electrifying its energy system, this Strategy offers valuable support to manufacturers in critical industries to secure the economic and environmental benefits of this transition.

BEAMA members from the electricity networks and electric heating sectors, vital players in decarbonising the UK's power system by 2030 and retrofitting 29 million homes by 2050, have responded positively to the Government's Clean Energy Sectoral plan.

Specific measures in the Strategy of high potential impact are:

- Recognition of electricity networks as a foundational sector
- Commitment to developing an Industrial Growth Plan for electricity networks
- Options to boost local manufacturing
- The objective for greater project pipeline certainty
- Recognition of the importance of flexibility and the digital economy
- Funding opportunities through new Government-backed institutions
- Cross-references to Net Zero measures in the other sectoral plans

To read the story in full visit: **https://tinyurl.com/mr2petrb**

Samsung welcomes APP Plumbing and Heating on board

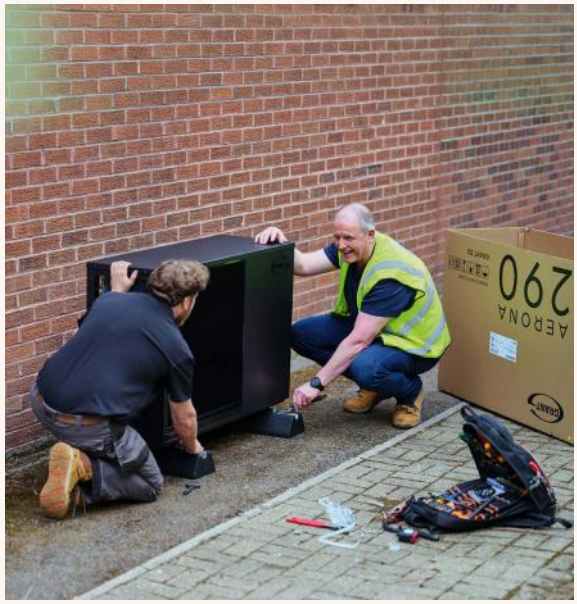
Samsung has announced APP Plumbing and Heating is now an official Samsung distributor. APP are a well-established supplier in the plumbing and heating industry, renowned for their commitment to independent merchants. The two companies in the heating industry have combined forces to offer Samsung's innovative products to a wider range of customers.

APP Plumbing and Heating has a long history of serving the independent merchant sector, offering a reliable supply chain and competitive pricing. With a business model built around flexibility, responsiveness, and strong supplier relationships, APP Plumbing and Heating provides independent merchants with the products and support they need to stay competitive in a fast-moving industry.

Continuing its trajectory of growth, APP Wholesale Ltd, the company behind APP Plumbing and Heating, has strengthened its presence in the emerging heat pump sector through the acquisition of Ultimate Renewables Supplies. With Samsung already having an established relationship with Ultimate Renewables Supplies, this acquisition created the perfect opportunity to expand the partnership through APP Plumbing and Heating. Together, they are now positioned to deliver a comprehensive, turnkey solution for the heating market.

https://samsung-climatesolutions.com
www.appheatingdistribution.co.uk

Empowering installers through lived experience of low carbon heating



Grant UK has launched a version of Nesta's Start at Home initiative to heating engineers across England and Wales. The new programme, called Start with Grant, gives fossil fuel boiler installers who haven't ever fitted a heat pump the opportunity to install a fully funded Grant air source heat pump system in their own home with full technical support.

The aim is to develop a growing network of professionals who can speak with authority and credibility when recommending low carbon heating to customers. By partnering with Nesta on this project, Grant UK is delivering a version of the programme that is tailored to its products and services, offering a complete solution from training to MCS certification through Heat Pump Go's umbrella scheme.

Installers who are interested in applying can do so through a dedicated webpage on the Grant UK website: **www.grantuk.com/professional/support start-with-grant**

To read the story in full visit: **www.acrjournal.uk/heat-pumps/empowering-installers-through-lived-experience-of-low-carbon-heating**

Unrivalled Heat Transfer Fluids & Expert Fluid Management Services

A key objective since **Hydratech's** formation in 1998, has been the establishment of technical partnerships with industry leading renewable energy consultants, contractors, and installers. Working with those responsible for heat recovery system design, installation and operation, **Hydratech's** engineers, chemists and analysts implement a fully integrated approach to thermal fluid selection and management - which in turn, maximises performance, reduces operational costs and delivers significant return on investment.

Hydratech Products

Specified by industry experts, **Hydratech's** innovative non-toxic heat transfer fluids and water treatment products are at the heart of the UK's leading housing, manufacturing and agricultural renewable energy projects.
Hydratech's antifreeze solutions have been formulated to optimise thermal efficiency, reduce pumping energy, extend operational life and provide effective frost protection - for all industrial, commercial and domestic projects.

Hydratech Services

The **Hydratech Services** division provides specialist engineering and maintenance services to customers installing, commissioning, operating or optimising heat pump systems.
By combining expertise in water treatment chemistry, fluid thermodynamics and mechanical engineering, **Hydratech Services** delivers a fully integrated fluid selection - fluid monitoring - fluid management approach to process and hydronic system optimisation. This in-turn helps to ensure long-term system efficiency and deliver significant energy savings.

Thermox DTX

A non-toxic fully inhibited heat transfer fluid, with antifreeze function. DTX represents a major step forward in heat transfer and pumping efficiency, providing >10% reduction in operating costs when compared with propylene glycol based fluids.

Manufactured in U.K

Hydratech
hydratech.co.uk

Tel: 01792 586800
Email: info@hydratech.co.uk

Another record month for certified small-scale renewables

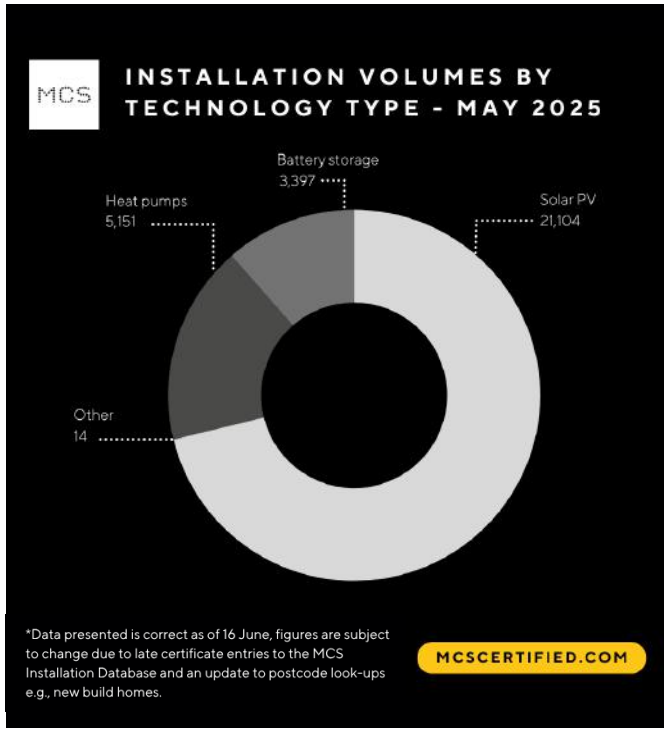
Ian Rippin, CEO at MCS, comments on the latest MCS data: "May was the best month for small-scale renewables in MCS history, with almost 30,000 certified installations across the UK, following on from the best April on record.

"Figures from the MCS Data Dashboard show that there were over 5,100 certified heat pump installations in May, as consumers continue to make the transition to low-carbon heating, driven by initiatives such as the Boiler Upgrade Scheme (BUS). We also reached the milestone of 300,000 all-time heat pump installations last month.

"Solar PV saw over 21,100 certified installations in May - a 30% increase on May 2024 - taking us past 100,000 total installations in the year so far. May 2025 was also the best month on record for battery storage, beating the previous record set in March this year, with almost 3,400 certified installations. This is a 112% increase on May 2024.

"It's great to see us reaching crucial milestones in 2025 in the small-scale renewables sector, a positive sign that consumer confidence in home-grown energy is continuing to grow. While this momentum continues and we look to transition to the redeveloped MCS, our priority is to ensure that installations are delivered to a high standard and that consumers have the best possible experience when investing in renewable energy."

https://mcscertified.com



Aggreko bolsters support with new Head of Temperature Control

Aggreko has strengthened its industrial HVAC and process temperature specialist support with the appointment of **Chris Smith** as Head of Temperature Control for the UK and Ireland.

Bringing over 22 years of experience at Aggreko across Europe, Chris is set to lead Aggreko's support for industrial HVAC contractors, engineers and facilities management companies across sectors, including manufacturing, data centres and construction.

This includes providing temporary and supplementary cooling, heating and dehumidification solutions to assist on sites during maintenance works, system upgrades, temperature spikes and in emergency outages.

The appointment comes as companies across the UK and Ireland continue to experience operational and process temperature challenges caused by changing weather patterns throughout the year.

www.aggreko.com/en/sectors/events/temperature-control

BESA appoints new director of competence and compliance

The Building Engineering Services Association (BESA) has appointed a new director of competence and compliance.

Jill Nicholls is stepping up from her current role as head of service development to replace **Helen Yeulet** who is moving on to a new position as strategic consultant to the Association focusing on key industry-wide projects and government skills policy.

In her previous role, Nicholls was responsible for driving up standards in skills and training across the BESA membership.

"Jill's commitment and dedication to raising the bar for skills, training, and competence standards has already made a major impact. It is exactly what we need to take our crucial work around professional and technical competence and compliance to the next stage," said BESA chief executive officer **David Frise**.

"She will be building on impressive foundations laid by Helen who will now focus her considerable expertise on several strategic projects that are vital to the industry's future," he added.

Nicholls joined BESA last year after seven years at the Institute for Apprenticeships and Technical Education where she rose to become head of construction and transport. She was previously employed by the Education Development Trust

www.thebesa.com

Worcester Bosch hosts budding young engineers as part of LEGO League STEM initiative

Worcester Bosch hosted pupils from three local primary schools for the West Midlands FIRST® LEGO® League Explore Festival, with the aim to inspire them to participate with STEM topics.

The initiative aims to address the engineering skills gap by engaging children with STEM from a young age. This is the third time the company has hosted the festival, with 27 children from Nunnery Wood Primary, Perry Wood Primary and newcomers Bewdley Primary School.

The theme of this year's event was 'Submerged', and the teams were tasked to create their own underwater worlds, using coding to program a set of robots to be able to move, make a sound or shine a light whilst submerged.

The children were presented with an award for taking part, alongside LEGO medals. They were treated to a visit from Worcester's mascot duo, Bobby the Boiler and Harley the Heat Pump.

To find out more about Worcester Bosch educational support activities please visit, **www.worcester-bosch.co.uk/about/CSR/education**

Sarah Atkinson joins Qvantum

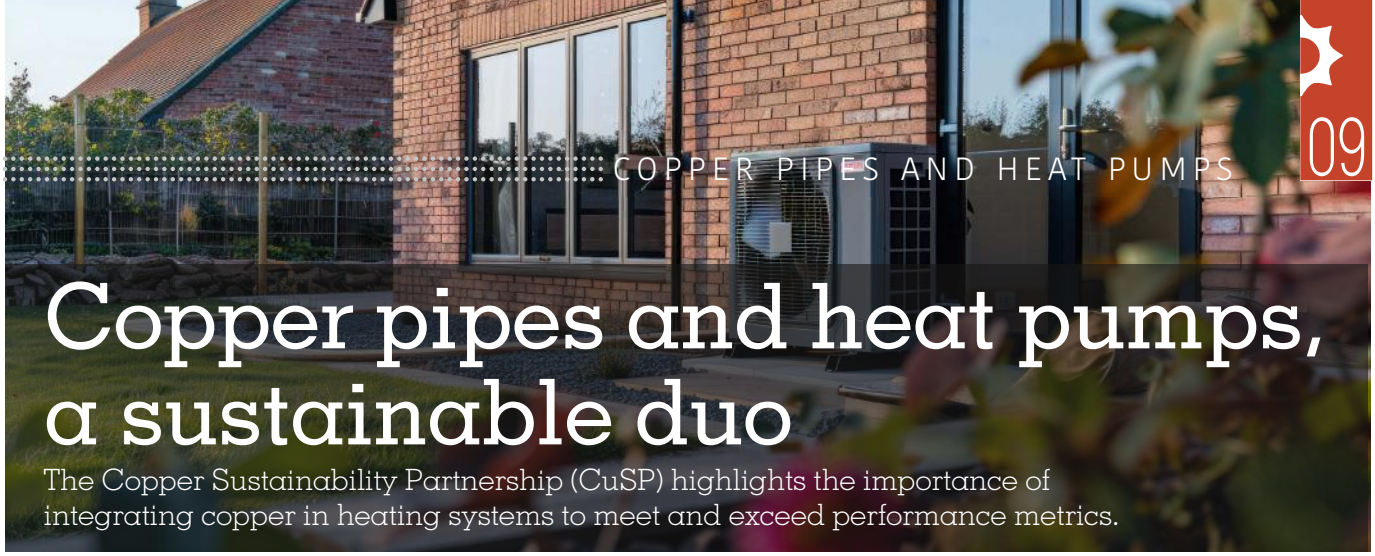
Sarah Atkinson has joined heat pump manufacturer Qvantum Energy Technology as Marketing Director.

With over 20 years of experience of B2B and B2C marketing across a wide range of sectors, Atkinson previously spent six years at Mitsubishi Electric Living Environmental Systems, where she was Head of Marketing and Product Development for the Commercial Products Group.

She said: "I am delighted to be joining Qvantum at this exciting stage in its growth. Qvantum's innovative design ethos puts the customer's needs at the heart of the design process and this philosophy makes it a fantastic brand for any marketer to work on. By building products with the end customer in mind, Qvantum has developed the perfect range for the challenges of the multi-dwelling sector. I am really looking forward to being part of this organisation, where sustainability is at its core."

Qvantum Energy Technology CEO **Phil Ord** said: "Having worked with Sarah before I am delighted to have her on board. I know she will do great things at Qvantum; our fast-moving and dynamic team will be a perfect fit for her fantastic skills and endless enthusiasm."

Qvantum@hvaccommunications.com



Copper pipes and heat pumps, a sustainable duo

The Copper Sustainability Partnership (CuSP) highlights the importance of integrating copper in heating systems to meet and exceed performance metrics.

As the UK accelerates toward a net-zero future, the conversation around heating homes is undergoing a seismic shift.

With the Future Homes Standard (FHS) set to take effect in 2025 and the Home Energy Model (HEM) redefining how energy efficiency is measured, low-carbon technologies like heat pumps are rapidly becoming central to residential construction and retrofit strategies.

It is important to integrate copper in heating systems to meet and exceed performance metrics. It's durability and compatibility with various technologies provide unparalleled versatility, ensuring that developers can adapt to future updates in legislation or energy models without significant overhauls.

Benefits of copper in heat pump installations

Heat pumps represent the frontline of the UK's decarbonisation strategy. Their efficiency, safety, and performance are only as strong as the infrastructure that supports them. Heat pumps work by transferring heat from the air, ground, or water into a building, offering a highly efficient alternative to traditional heating methods. That's where copper's superior thermal conductivity and durability under pressure make it the material of choice for modern heating systems.

Unlike plastic pipes, copper enables rapid and efficient heat transfer, ensuring that heat pumps operate at peak performance, even in high-demand or colder environments. Withstanding higher pressures and temperatures with ease, copper provides the mechanical resilience needed for safer systems.

Crucially, copper eliminates fire risks associated with plastic pipes. The Plastic Under Fire campaign reveals that plastic pipe materials can ignite at temperatures as low as 210°C, releasing highly toxic fumes including hydrogen chloride gas, which pose serious health risks and complicate fire safety in buildings. Copper is non-combustible, does not emit toxic smoke and maintains its structural integrity even in extreme heat conditions.

Toxic fumes released from burning plastic are a major contributor to fire-related fatalities, accounting for approximately 60-70% of deaths in building fire incidents. Using copper piping dramatically reduces these risks, helping to safeguard occupants and improve fire safety compliance in both residential and commercial heat pump installations.

With the UK seeing a 63% increase in hydronic heat pump sales in 2024 and aiming for 600,000 annual installations by 2028, the infrastructure supporting these systems is under intense scrutiny. Heat pumps supported by copper piping are not just a choice, they're a necessity for achieving long-term reliability and efficiency.

The UK's Future Homes Standard and Home Energy Model are shaping the regulatory framework for heating solutions. By 2025, all new homes will need to comply with stringent standards focused on thermal efficiency, emissions, and overall energy usage. Copper systems seamlessly align with these goals, offering developers and contractors a proven pathway to compliance.

Copper's ability to handle high pressures and temperatures ensures that heat pumps maintain peak performance under the most demanding conditions. This resilience also reduces the need for frequent maintenance, ensuring systems remain cost-effective and efficient over their lifetime.

Sustainable advantage in the industry

Copper's role in sustainability extends beyond its performance in heating systems. As an infinitely recyclable material, copper supports circular economy principles, reducing waste and embodied carbon in the construction sector. It's estimated that around two-thirds of the 550 million tonnes of copper produced since 1900 are still in use today.

Additionally, copper's long service life reduces the need for replacement, aligning with sustainable building practices. Its natural antimicrobial properties further enhance its appeal in residential and commercial heating systems, promoting healthier living environments.

Research demonstrates that copper installations offer exceptional durability, with a lifespan well over 50 years. This longevity makes copper a cost-effective and environmentally responsible choice for developers and homeowners alike.

The UK's transition to heat pumps is well underway, with major housing developments and retrofit projects showcasing the effectiveness of copper systems. From large-scale social housing projects in urban areas to bespoke rural homes, copper is enabling high-efficiency, low-carbon heating solutions across diverse settings.

For developers, contractors, and specifiers navigating the changing regulatory landscape, building future-ready homes requires future-ready materials. When it comes to integrating heat pumps into high-performance heating systems, copper delivers on every front. Its combination of technical superiority, environmental sustainability, and regulatory alignment ensures that copper will remain indispensable as the UK transitions to a greener, more efficient housing stock.

By prioritising copper in heat pump systems, stakeholders can meet the demands of today while anticipating the challenges of tomorrow, delivering homes that are not only compliant but also resilient and sustainable for generations to come.

Info
Copper@weareliquid.com

Getting installers' voices into the Warm Homes Plan

Charlotte Lee, Chief Executive of the Heat Pump Association (HPA), shares her thoughts on shaping the direction of the Warm Homes Plan, noting that free HPA membership for MCS-certified installers will boost their voice in policy decisions.

Charlotte Lee, Chief Executive of the Heat Pump Association (HPA)

Here at the HPA, we keep a close eye on Government policy that will affect the deployment of heat pumps in the UK. One of the most important upcoming developments is the Warm Homes Plan, due to be published by October this year. This strategy is expected to set out how the Government will improve energy efficiency, tackle fuel poverty and support the shift to technologies like heat pumps. It's a big opportunity for the sector, and installers must be part of the conversation.

When I was appointed as Chief Executive in 2023, I was tasked with increasing the representation of installers in the HPA, and in recent months, we've taken significant steps to amplify their voices.

We're offering free HPA installer membership for all MCS-certified heat pump installation businesses to make it easier to get involved. Since launching the scheme, our installer membership has grown, with us now representing 200 installation businesses. To support these new members, we've also welcomed **Damon Blakemore** as our Installer Representative to gather feedback and ensure installer views are reflected in the HPA's work.

This will be key as the HPA works with the Government to shape the direction of the Warm Homes Plan. Through their membership, installers can feed directly into HPA's consultation responses and policy positions, on everything from the Boiler Upgrade Scheme to MCS Standards and electricity market reform.

We want to see policies that reflect the real-world experience of the industry. This includes long-term plans to support heat pumps, streamlined schemes that are easier for both consumers and installers, and a focus on quality heat pump training pathways.

The Warm Homes Plan is a key opportunity to ensure that Government policy and ambitions align with what is happening on the ground. HPA will continue to work to make sure that the installer perspective is part of the picture.

If you are an MCS-certified installer and not yet a member, join the HPA now for free and help shape the future of the sector: **https://mcscertified.com/join-the-heat-pump-association/**

Info
www.heatpumps.org.uk

Quantum Training and Kensa team up to train the future at Peterborough College

Quantum Training and Kensa have equipped Peterborough College's new Green Technology Centre with ground source heat pump training bays. We take a look at how this will help students develop practical green skills and support the UK's net-zero goals.

Quantum Training and Kensa announced their joint contribution to the newly opened £13.5 million Centre for Green Technology at Peterborough College, part of the Inspire Education Group, a cutting-edge facility dedicated to preparing students for careers in renewable energy, sustainable construction, and low-carbon technologies.

Peterborough College is the latest to feature Quantum Training Bays equipped with Kensa's ground source heat pumps, with a further 13 bays and 3 demonstration units offering ground source heat pump training already in operation at colleges across the UK. The installations will equip students with the skills needed to support the UK's net-zero ambitions and a growing demand for ground source heat pumps, driven by the upcoming Future Homes Standard, which will end gas boiler installations for new housing developments. **Rachel Nicholls**, Principal and CEO of Inspire Education Group, described the centre's opening as "a proud day for the future of green skills," highlighting the focus on delivering practical skills and authentic learning environments to prepare students for the green workforce.

As part of this landmark project, Quantum Training installed specialised training bays within the centre, including two Ground Source Heat Pump Training Bays, two Solar Thermal Training Bays, and two Electrical Ecosystem Training Bays. The dedicated ground source heat pump training bays feature Kensa's British-made heat pumps and provide students with hands-on experience of real-world, industry-standard technology that's already found in thousands of UK homes.

Baroness Sharon Taylor, who officially opened the centre, called it "a landmark facility" essential for equipping learners to meet the demands of a net-zero economy. **David Pennell**, Chair of the Corporation, emphasised that "investing in skills is essential to a happy, healthy, and prosperous future."

Maria Gonella, Managing Partner at Quantum Training, said: "We're proud to partner with Kensa to bring their industry-leading ground source heat pumps and expertise into our training bays, including at the new Centre for Green Technology at Peterborough College. This collaboration is a perfect example of how industry and education can come together to tackle the green skills gap"

"As a decarbonisation business and renewables training provider, we know first-hand the challenges of finding competent installers, particularly among young people. That's why we've designed our training equipment and courses to reflect real-world conditions, giving students the skills and confidence they need to thrive in the growing green economy."

David Billingsley, Sales Director at Kensa, said: "We're proud to be working with Quantum Training to share our ground source heat pump products and knowledge with the UK's future workforce. Equipping the next generation with the right skills is vital to ensuring the transition to renewable heating succeeds for businesses, homeowners, and the country.

"Through Quantum's training bays, including the one at Peterborough College and many others nationwide, we're helping ensure students can install ground source systems effectively and are ready to meet the growing demand for cleaner, more efficient heating."

Peterborough College's Centre for Green Technology also features solar panels, rainwater harvesting, and immersive technologies such as a virtual reality wall. It also supports training in electric vehicle infrastructure, solar PV, air source heat pumps, retrofit, and sustainable construction, reflecting the growing demand for green skills, with over 440,000 green jobs projected by 2030.

Quantum Training's installation of the full suite of training bays, combined with Kensa's provision of ground source heat pump systems, exemplifies the power of industry collaboration to deliver practical, hands-on education that aligns with employer needs and the UK's sustainability goals.

Info
www.kensa.co.uk
www.thequantumgroup.uk.com

Apprenticeships: The key to solving the heat pump skills shortage

Government net-zero strategy positions heat pumps at the centre of low-carbon heating solutions, with demand for installation expertise rising rapidly. Yet, behind this clean heat revolution, a growing crisis is emerging: a shortage of skilled workers. **Mark Krull**, Director at Logic4training, discusses how apprenticeships hold the key to addressing this challenge, through flexible business-focused programmes.

Apprenticeships stand the test of time - positioned as the traditional entry point into the trades, combining real-world experience with structured learning. But as the building services sector rapidly changes to meet low-carbon solutions for heating, diversifying how new talent enters the sector is critical. Through tailored, work-ready training models, apprenticeships can close the skills gap while providing long-term value for employers.

Insights from the TrustMark report

The latest TrustMark report, 'Skilled to Build" has highlighted a critical issue in the plumbing and heating industry: An ageing workforce, a widening skills gap and a recruitment pipeline that isn't keeping up with demand. With 44% of the workforce over 55 and 79% of renewable heating businesses struggling to recruit, small businesses need a sustainable solution to scale up and future-proof their workforce.

The report also draws attention to low awareness of available financial incentives, recommending clearer signposting to help Small and Medium sized Enterprises (SMEs) access funding.

A perfect storm: Skills shortage meets soaring demand

Heat pumps are the front-runner for low-carbon domestic heating solutions in the UK - with Government backing in the form of the Boiler Upgrade Scheme (BUS) offering up to £7,500 towards installation costs.

BUS applications are up 73% from January to June 2024, compared to the same period in 2023 - an affirming statistic that growth in demand is clear. The trend is set to continue with the recent spending review stating that funding for BUS will continue to increase each year until 2029/30.

But without a skilled workforce to match growing demand, the momentum created BUS may not reach its potential. This is why apprenticeships are more important than ever before, allowing employers to take advantage of market drivers, affordably and sustainably.

Why apprenticeships are the ideal solution for small businesses

For SMEs navigating tight budgets and limited time, apprenticeships present a practical solution wherein employers receive government-backed training support, and apprentices gain valuable skills through real-world experience. With lower starting wages and funding that can cover up to 100% of training costs, it's a scalable investment.

The benefits are mutual; the apprentice gets to 'earn while they learn' with a clear progression pathway for their career, while the employer has a lower-risk, cost-effective way of recruiting (and retaining) 'home-grown' talent. Government statistics show that 86% of employers believe apprenticeships help develop new skills that support their organisation's growth. Apprentices are significantly more likely to remain with their employer after completing their training.

Future-proofing the workforce

It's no secret that the heating sector needs a skilled, net-zero-ready workforce and the next generation of engineers will increasingly require skills in renewable technologies such as heat pumps. Opportunities to upskill in these areas will remain essential, but we need to be realistic about what's required for the transition to low carbon heating.

While it's encouraging to see a growing focus on heat pumps through initiatives like the Low Carbon Heating Technician Apprenticeship (LCHTA), gas isn't disappearing overnight - the UK is still a way off becoming fossil fuel free. Even after installations cease, most homes are currently heated by gas - hybrid systems and boiler replacements will remain part of the landscape for years to come. Exclude plumbing and gas qualifications as a core component of training and it limits the capability of future installers who will need to work with existing systems.

We need broad, flexible training that reflects reality. To that end, CIPHE[2] has recently updated its Level 2 and Level 3 plumbing apprenticeship Standards to reflect the changing landscape, with Level 3 progression including low carbon heating, gas engineering and further assessment on low temperature hot water systems. These new Standards aim to level the playing field to include all plumbing routes and not just those that are fuel based.

Flexible apprenticeship models

Traditional college-based training often clashes with the day-to-day needs of small businesses. In response to industry demand, there are more flexible and inclusive options that enable small businesses and sole traders to customise training to fit specific needs - diversifying the way that businesses can develop talent internally.

Colleges are usually bound by term times, but some private training providers, such as Logic4training, offer more adaptable solutions, allowing employers to customise training schedules and better integrate hands-on learning with classroom theory. Block classroom training i.e. a week in centre followed by three weeks on the job - for example, rather than the traditional day release model.

The rise of career-changer apprentices

In recent years, there has been a shift in the apprenticeship talent pool - no longer limited to school leavers, they offer an alternative route for adults seeking a change in career. Increasingly, people from all walks of life are leaving entirely different sectors to retrain in trades like gas engineering and plumbing.

Examples from our own apprenticeship programme include **Julieta**, whose story shows how apprenticeships can open doors for those wanting a fresh start. Seeking a stable, secure career, in her early 30s, she found her way from hospitality to an apprenticeship in gas engineering.

"I love that every day is different and that I'm putting down roots in a career that feels worthwhile. Each job has its own challenges, and I enjoy figuring things out. Before I started, I'd underestimated what I'd been doing. It's much more interesting than I'd imagined it would be and it's really great to feel part of a valued team."

From the employer's perspective, what sets a career changer apart is their mindset. They bring with them a strong work ethic, life experience, and a clear reason for changing direction. For many, it's about better work-life balance, long-term prospects, or the chance to be their own boss. And with the skills gap continuing to grow in the building services sector, they're stepping into a market that's crying out for capable, competent professionals who face a steady pipeline of work.

Heat pump ready

Ultimately, the challenge facing the heating industry is not just about filling vacancies and attracting new entrants - it's about future-proofing the workforce. As green technologies continue to develop, businesses need staff who are adaptable, well-trained with the right background and experience to support the heat pump roll out. Apprenticeships offer a unique opportunity to shape new recruits to suit the specific demands of the current heating landscape, and an individual businesses culture and values.

A bespoke approach

Julieta is completing her apprenticeship with CSD-Gas. Logic4training partnered with **Tony Day**, Business Development Manager at CSD-gas, to create a customised apprenticeship training programme tailored to the unique needs of his business. Collaboratively, they developed a block release model, enabling his two apprentices to spend one week per month in dedicated training and the rest gaining hands-on experience alongside CSD-gas engineers.

This bespoke approach delivers high-quality education combined with real-world application, equipping apprentices with the necessary skills for a successful career in the gas industry. As the employer, Tony benefits from an affordable recruitment process, enabling him to build a capable, work ready team.

To read more about how Logic4training can design our apprenticeships specifically for you visit: **https://apprenticeships.logic4training.co.uk/**

Source

1. www.trustmark.org.uk/pages/skills-gap-research/thank-you
2. www.ciphe.org.uk/globalassets/media/pdfs/the-ciphe-plumbing-standards-faqs-.pdf

The future of air source heat pumps: Balancing sustainability and noise

Hope Denton, Acoustic Solutions Specialist at Jacksons Fencing, explores the future of air source heat pumps and how noise management is key to ensuring their successful, sustainable adoption across the UK.

As the UK accelerates its effort to meet its net-zero carbon emissions target by 2050, air source heat pumps (ASHPs) are poised to play a crucial role in the decarbonisation of heating. These energy-efficient systems, which extract heat from the ambient air and transfer it indoors, represent a major shift away from fossil fuel-based boilers and towards more sustainable, ow-carbon alternatives.

With government targets aiming for 600,000 ASHP installations annually by 2028, and global forecasts suggesting that ASHPs could meet 20% of the world's heating demand by 2030, their importance in the green energy transition is rapidly growing. The technology also complements other renewable solutions like solar panels and improved insulation, forming part of a whole-home approach to energy efficiency.

Examples of acoustic enclosures

Real application: Gilbourne Road, Greenwich

One example of ASHPs being integrated into sustainable development is the Gilbourne Road housing project in Greenwich, where 15 net-zero council homes have been built using cutting-edge energy-efficient technologies and sustainable materials. Each home includes solar panels, triple glazing, and air source heat pumps, contributing to low running costs and minimal maintenance.

However, like many urban projects, the development faced a challenge: balancing green space requirements with the practical needs of infrastructure such as heat pumps and fencing. Planning regulations demanded the inclusion of trees and vegetation within Sustainable Urban Drainage Systems (SUDS), necessitating fencing solutions that could offer security without hindering urban greening efforts.

Jacksons Fencing provided a solution which offered clear boundary definition while supporting plant growth and preserving visual aesthetics. Just as the railings balanced form, function, and


Envirofence acoustic fencing

sustainability, managing ASHP noise in such developments requires a similarly thoughtful approach.

The noise challenge of ASHPs

Despite their advantages, the noise generated by external ASHP units can be a concern, especially in densely populated areas. The low-frequency hum or whooshing noise may disrupt residents and neighbours, particularly during colder months when heat pumps work harder and operate more loudly.

With more than 100,000 UK customers on waiting lists for ASHP installations, ensuring positive public perception is essential. Poorly managed noise could not only reduce satisfaction but also spark community resistance, slowing the technology's broader rollout. In residential developments like Gilbourne Road, managing these challenges becomes vital to the long-term success and community acceptance of such technologies.

Managing noise concerns through design

The fencing is at the forefront of helping manage noise concerns associated with ASHP installations; addressing noise from the outset of the planning process is key. Involving a noise consultant or acoustician early in the design phase ensures that heat pumps are installed in optimal locations, and that noise reduction strategies are incorporated into the project design. One such strategy is the use of acoustic enclosures.

The noise challenge

While ASHPs are a suitable heating solution, the operational noise can create friction between users and neighbours. External units produce a low-frequency hum or whooshing sound, which can be disruptive in noise sensitive areas. Although modern ASHPs are quieter than older models, noise levels can still be problematic, especially when installed close to residential properties. As the demand for ASHPs continues to expand, these concerns must be addressed to avoid resistance from local communities that could slow the technology's adoption.

Strategic design and planning

Effective noise management begins with strategic planning. Collaborating with a noise consultant or acoustician helps assess site conditions and determine the best locations for heat pump units. This careful planning can ensure noise levels remain manageable and avoid negative impacts on neighbours.

Acoustic enclosures are one of the most effective noise reduction solutions. These structures are designed to reduce sound transmission, ensuring quieter operation. Acoustic enclosures are made from a variety of materials, such as timber, and can be tailored to meet the specific needs of each installation. They not only reduce noise but also offer additional benefits that can improve the overall quality of life for businesses and homeowners.

What is an acoustic enclosure?

An acoustic enclosure is a structure built around a noise source to 'trap' the noise it produces. Typically, these enclosures feature walls made of noise-absorbing materials and a gate for access. In some cases, one side of the enclosure may be left open to prevent the creation of an echo chamber, which could amplify noise. This open side also ensures proper airflow to the heat pump, which is crucial for efficient operation.

Some enclosures are designed with louvre features to allow for airflow while still reducing noise, though this may be more challenging and expensive with materials other than timber. Others such as, Jacksons Fencing supplies acoustic enclosures are in kit form, which allows for an airtight fit on-site and provides a cost-effective solution compared to modular systems.

The benefits of acoustic enclosures

Beyond noise reduction, acoustic enclosures offer several additional advantages. In terms of aesthetics, these enclosures can be designed to blend seamlessly with the surrounding environment, reducing the visual impact of the ASHP units. Enclosures can be designed in various shapes - square, rectangular, or even slightly curved - to suit the specific requirements of the installation site.

Beyond their noise-reducing capabilities, acoustic enclosures also provide increased security. Given the high cost of ASHPs, protecting these units from potential vandalism or tampering is essential. Durable enclosures, made from robust materials such as timber, can help deter vandalism and protect the long-term functionality of the system.

They can also act as a visual screen, helping to maintain a consistent and uncluttered appearance in landscaped or heritage-sensitive areas, which is an important consideration in many urban planning proposals.

Secure noise reduction

Noise reduction strategies such as thoughtful placement and acoustic treatments can make a significant difference, sometimes reducing the perceived noise from 60 dB by half or more. The difference is particularly noticeable in colder weather when ASHPs work harder to extract heat, often resulting in increased noise levels. Even a 10dB reduction in noise is perceived as halving the sound, making acoustic enclosures a highly effective solution for managing ASHP noise.

As the demand for air source heat pumps continues to grow, addressing noise concerns will be crucial to ensuring their successful adoption. By incorporating noise management strategies early in the design process and using solutions like acoustic enclosures, it's possible to balance the environmental benefits of ASHPs with the need for quiet and harmonious living spaces. This approach will help pave the way for widespread use of this sustainable technology, contributing to the UK's ambitious net-zero goals.

Info
www.jacksons-fencing.co.uk

Cool heads, warm homes:

How to handle heat pump complaints with confidence

Samuel Girven, Marketing and Partnerships Manager, QURE Group

Samuel Girven, Marketing and Partnerships Manager, QURE Group, discusses everything from clear communication to complaint resolution — your guide to staying one step ahead on every install.

Working in the renewables space right now feels a bit like walking a tightrope. On one side, there's the growing demand for new technology like heat pumps. On the other, a rising tide of public scrutiny and scepticism. You've got homeowners who want to do the right thing but don't fully understand the tech, pressure from policy and funding schemes to meet installation targets, and a digital landscape that seems to thrive on heat pump horror stories. And in the middle of all that? You, the installer, expected to deliver seamless results while navigating all the complexities.

All you want to do is provide a great product with a great service, is that too much to ask?

The UK is currently undergoing a major shift, heat pumps are no longer just for the eco-conscious early adopters, they're quickly becoming mainstream heating systems. On the surface, that sounds great, but like with any emerging technology, there's a lot of noise, and unfortunately, it's often the negative voices that shout the loudest. A rise in questions, confusion and uncertainty are the biproduct, with some turning into further complaints.

I was recently at the InstallerSHOW and spoke with an installer who'd taken the leap into heat pumps, shifting his business to meet demand. He's a one-man band, taking on one job at a time and pouring real pride into every install. With no room for disputes or delays, he goes the extra mile to make sure the customer understands exactly what they're getting and how it all works. He told me it adds a bit more time up front but saves a world of stress later on. And that's the point, sometimes, just spending an extra half hour explaining things clearly can make all the difference in avoiding confusion and worse, disputes down the line.

The truth is, complaints and misunderstandings are part of the job from time to time. But there are simple steps you can take to reduce the chances of them cropping up in the first place. Because you're not just fitting a heat pump, you're helping someone feel confident living with it, day in and day out.

Understanding learning styles

Heat pumps are relatively complex systems. While they've been around for decades, their current capabilities and integration into UK homes are still new for many homeowners. As an installer, you might know the ins and outs of COP ratings and flow temperatures, but your customer doesn't. And how they take in that information matters.

People learn in different ways, some are visual learners, others prefer verbal explanations, or some may need to physically interact with the system, to fully understand how it all works. The best way to avoid confusion later is to cover your basis early. Ask the homeowner what style works best for them, so you can include this into your pre, during and post installation conversations.

Use visual aids, walk them through step by step, or even put together a simple user guide tailored to their system. Having a few different ways to explain things in your back pocket can make a big difference. It's not just helpful after the install, it can also make the sales process smoother by reassuring those who might still be on the fence.

Communicate at every stage

Clear communication throughout the installation isn't just good practice, it's what sets you apart. At each stage of the installation, take some time to walk the customer through what's happening. It's a great chance to open up a two-way conversation, answer any questions, making them feel involved rather than just informed. The chances are they may even offer you a brew and a biscuit too, so it's a win-win.

The power of a follow-up

Most complaints don't stem from bad workmanship, the majority of the time it is due to misunderstandings or a lack of confidence in how to use the system. This is where a well-timed follow-up can help to clear up any issues, helping to maintain positive customer relationships.

A week or so after commissioning, schedule a return visit. It gives you the chance to check everything is running smoothly, answer any new questions, and clear up anything that the homeowner may have interpreted. It also allows you to show that your service doesn't just stop once the job is done.

For installers offering aftercare packages, this kind of proactive support is a perfect way to demonstrate your ongoing value and remind your customer why sticking with you long-term is the smart choice. It encourages loyalty and can even spark referrals.

Prepare for complaints

Even when you've done everything right, clear communication, a quality install and excellent aftercare, a complaint can still land in your inbox. It is part of the job but it still deserves the same level of attention and care now, as it did during the sales process. Often the key difference between a complaint getting resolved and spiralling into something more, is as simple as how prepared you are.

Creating a simple 'complaints handbook' or internal guide isn't about expecting the worse, it is about being ready. Ready to deliver a professional service. Ready to protect your time. Ready to preserve your reputation. It doesn't need to be complex, just a few clear steps you can follow consistently to ensure the customer feels listened to, supported and reassured. It also helps you to stay compliant with your certification body or consumer code.

- **Logging issues**: One of the simplest, yet most valuable habit is to log every concern or complaint as soon as it arises. Whether that be a notebook, spreadsheet or a dedicated system, make notes of dates, times, what was said an any action taken. This creates a clear, factual record that you can refer back to if needed, helping you stay organised and accountable.
- **Who responds and when**: Set your team a simple service level agreement (SLA). It could be as easy as 'acknowledge all complaints within 24 hours". A prompt response alone can help de-escalate a situation, showing the customer that they've been heard and that you're taking their issue seriously. Often, that's half the battle.
- **What information you may need to gather**: Not all complaints are straightforward. Some may require photos, installer notes or communication logs. Be proactive by gathering the relevant information early on, especially should the complaint be escalated to another supplier. The more complete understanding, the more confidently you can resolve the issue, or defend your position if necessary.

But what happens if the customer doesn't engage in your internal process? What can you do to find a fair resolution?

When the complaint turns to deadlock – Third party support

Sometimes, a complaint reaches a point where it feels like there's no clear way forward. Communication has broken down, tensions are high and both sides are feeling stuck. This stage is what's often referred to as deadlock, where frustration, confusion and hesitation take over.

So, what now? What's the next step? How do you reach a fair resolution?

In my experience, this is where things often start to unravel. Neither party wants to engage, the homeowner is fed up and the installers have already moved on to the next job. No one is keen on another round of phone calls emails or paperwork, especially when time and energy is focused elsewhere. And this is exactly where independent third-party support can make all the difference.

What is Alternative Dispute Resolution (ADR)?

ADR is a fair and impartial way to help to keep things moving. ADR is not here to judge, it is about finding a resolution that works best for both sides. Happy installer, happy customer, no more deadlock. It really is that simple. At QURE Group, we focus on facts, not fairness. Our CTSI-approved mediators provide a structured space for both sides to explain their concerns, review the evidence, and work toward a solution that feels fair and constructive.

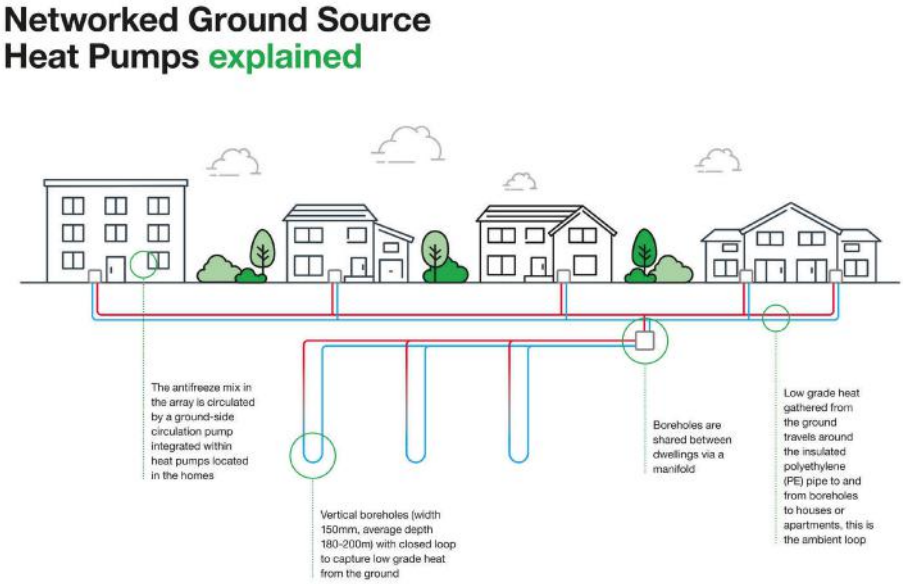
If you find yourself at a deadlock with no clear next step, don't let it drag on. Reaching out for third-party support shows your customer that you are serious about their satisfaction, and takes the pressure off you, so you can stay focused on the job ahead.

https://quregroup.co.uk/

From boilers to brilliance

Neal Herbert, GTC Managing Director, discusses why networked ground source heat pumps are the future of new build heating.

Neal Herbert, GTC Managing Director



In the world of residential development, there's comfort in familiarity. For decades, developers have relied on gas boilers to heat new homes. They're simple, well-understood, and easy to install. Plumbers know them inside and out. Logistically, they're compact - six boilers to a pallet - making on-site storage a breeze. And from a cost perspective, they're a winner.

Homeowners too are comfortable with gas. Boilers are tucked neatly into kitchen cupboards and are easy to maintain, thanks to a robust national network of service providers like Homeserve. Repairs are straightforward, and energy bills, while not always cheap, are at least predictable.

But the world is changing. The demand for sustainable solutions and reduced carbon emissions is pushing the industry towards greener alternatives.

The transition – Air source heat pumps

As gas boilers begin to fall out of favour, individual air source heat pumps have emerged as the next step. On paper, they sound ideal. They're more energy-efficient - delivering up to three units of heat for every unit of energy used - and they align with sustainability goals. But the reality is more complicated.

Installing air source heat pumps isn't plug-and-play or fit and forget. They require different plumbing infrastructure, which means extra training and time. They're also logistically cumbersome - each unit takes up the space of three pallets, increasing transport and storage needs. Installation sites must be carefully chosen, often impacting the external aesthetics of a home, particularly in terrace builds.

For homeowners, while the efficiency is an upgrade from gas, bills can still be high in winter. Repairs may also be harder to source, given the relative lack of industry expertise and knowledge.

Here today – Networked ground source heat pumps with smart technology

Enter the game-changer: Networked ground source heat pumps.

These systems are designed to overcome the limitations of both gas and air source heating. Installed underground with the indoor unit conveniently located inside the home - often under the stairs or near the hot water tank, networked ground source heat pumps provide a familiar and space-saving setup for developers and a discreet, efficient solution for homeowners.

For developers, the advantages are compelling:

- 15 units per pallet, drastically reducing transport and on-site storage.
- Lower costs compared to individual air source heat pumps.
- Simplified electrical infrastructure, with demand on par with gas boilers with no costly reinforcements or substation upgrades needed.
- Bring a complete end-to-end heating, hot water and cooling solution. This inclusion of passive cooling helps Part O Building Regulation compliance.

For homeowners, the benefits are even more persuasive:

- 4:1 efficiency, year-round.
- Uncompromised performance in cold weather - unlike air source heat pumps, ground source heat pumps don't struggle in winter.
- 30% reduction in energy bills, thanks to a bundled smart thermostat.
- Low maintenance, with all parts and servicing - including boreholes - covered by GTC.
- Remote control, learning behaviour, and seamless integration via the smart thermostat app.

It's a true "fit-and-forget" system, backed by UK manufacturing, lifetime guarantees, and a domestic customer service centre. And yes — it's fully Future Homes Standard-compliant and eligible for Greener Grid Payments, meaning it's good for the planet and your pocket.

Info
www.gtc-uk.co.uk

PURE Efficiency, **PURE** Innovation

High temperature
Flow temperature up to **80°C**

Perfect for colder climates
Operation down to **-20°C**

Natural Refrigerant
R290

NEW **PURE** product line

from **60** to **690** kW

CHILLERS AND HEAT PUMPS
AIR CONDENSED WITH SCROLL COMPRESSORS

The PURE product range is designed to handle the air conditioning of industrial plants and thermal loads in technological applications, where maximum system reliability is required in all operating conditions, 24/7.

- MULTI-PROTOCOL COMMUNICATION INTERFACE
- AXIAL FANS
- CORROSION RESISTANT MATERIAL
- SCROLL COMPRESSORS
- FAST RESTART
- PLATE HEAT EXCHANGER
- NATURAL REFRIGERANT

The natural choice for tomorrow's climate

hiref.com
info@hirefltd.co.uk

HiRef
Innovators above the standards

REHAU brings Rosslyn Castle into the 21st Century

An inside look at the installation of six air source heat pump (ASHP) systems within the vaulted second level of Rosslyn Castle — part of an ambitious effort to transition the historic site from fossil fuels to a fully renewable energy solution.

Situated just nine miles south of Edinburgh, Rosslyn Castle is a true hidden gem among Scotland's many historic sites. Though not as widely known as the capital's fortress, Rosslyn Castle is a stunning sight all the same, offering panoramic views over the River Esk below from its promontory on the cliffs of Roslin Glen.

Fortifications have stood on the site since the 14th century, and the stronghold has survived numerous fires and military campaigns over the centuries, though today the castle serves an altogether different purpose. Following a period of restoration instigated by the Earl and Countess of Rosslyn, the fortress' primary function changed over to that of holiday accommodation in 1985.

Heating up history

After nearly 40 years serving holidaymakers, the site's owners decided that another restoration project would be necessary in order to successfully bring the Category A listed building into the 21st century. Commencing in 2022, the ambitious £4 million repair and restoration programme, which would come to be recognised with a GOLD award from the Scottish Design Group, planned to fit the castle's great hall and tower with a permanent roof for the first time since 1650, while also ensuring that the entire site was Net Zero ready.

Heating was set to be provided by six air source heat pump (ASHP) systems, which would be located in the second level of the castle's vaults. This would help reduce the impact of any noise within both the castle and the glen below, while the thermal mass of the vaults would help maintain efficiency during cold weather.

James Cameron, Associate Director of electrical consultants Harley Haddow, explained: "The installation of six ASHPs would allow the site to transition from fossil fuels to entirely renewable means, with the inclusion of four large thermal stores helping to maximise efficiency and provide additional resilience.

"This was estimated to reduce the building's heat and hot water consumption by 67% compared to the previous system, saving over 17 tonnes of CO_2 every year. We believe that this may be the oldest building in the world using ASHPs."

Navigating the past

Heat and hot water were set to be distributed around the building via a combination of underfloor heating (UFH) and radiator circuits. However, working within the confines of such a historic building would naturally invite its own challenges that required careful consideration, which is where REHAU was called upon to assist with the specification and delivery of the heating system.

Scott McDonald, Area Sales Manager at REHAU, explained: "From the moment we were brought on board, it was apparent that this was going to be a project with an extremely unique set of challenges. Fitting a heritage site with a modern heating system always requires a great deal of planning, and I don't think any site exemplifies this more than Rosslyn Castle. However, through a combination of our own technical expertise and that of Harley Haddow, we were able to come up with an ingenious solution."

REHAU's Underfloor Heating (UFH) would be selected for its ability to evenly heat the space, which was a crucial consideration for large open areas such as Rosslyn Castle's great hall. Moreover, the use of an UFH system would also allow the building to benefit from energy-efficient heating without compromising its historic aesthetic. The installation would be completed using a combination of diffusion plates and a screed rail system, depending on the available space within individual rooms of the castle.

To install the former, the original oak floorboards were carefully lifted, labelled, and stored while the REHAU diffusion plate system and pipework were fitted in the castle's rooms and hallways, with the floorboards attentively put back in place afterwards. In the great hall, the installers used a unique eco-friendly recycled glass fibre Geocell insulation base for the screed rail system, which was covered with a mesh grid to cradle UFH pipework within the finished floor.

For the radiator circuits, the castle's historic walls and floors provided minimal room for manoeuvre, while minimising damage to the listed building's fabric was also critical. Here, the RAUTITAN MLCP would prove paramount to overcoming this challenge while still ensuring a high-quality installation. The pipework's innate flexibility would allow it to be easily bent by hand into the required shape and installed within the building's narrow channels. The proven compression sleeve jointing system also negated the need for any hot works that would have posed a threat to the building's fabric, and would have also been difficult to complete in the space provided. Lastly, it's signature lack of O-rings also guaranteed that the pipework would remain leak-proof once installed, offering maximum peace of mind to both installers Lothian Heating, and the castle's owners.

Angus Liston, Director at Lothian Heating Services Ltd, said: "Getting a building such as Rosslyn Castle Net Zero ready is no mean feat, but has been made possible through the hard work and collaboration of REHAU, Harley Haddow, and our own experienced team, led by **Scott Clouston**. Overhauling the castle's outdated heating system was a key element in the owners' latest restoration project, and has gone a long way to providing the site with a new lease of life, preserving this historic building for a whole new generation of visitors to enjoy."

Info
www.rehau.com/uk-en

In from the cold

Tom Merton, Technical Manager, Armacell® UK, looks at the why one of the best ways to maximise heat pump efficiency is to adequately insulate external pipework.

Heat pumps are often exposed to moisture and limiting space constraints as well as having to operate across wide temperature ranges. These conditions can severely impact the entire heating system, which is why efficient and robust insulation is essential.

To help specifiers and contractors protect equipment against these environments, the industry has responded with insulation solutions that provide a reliable shield against external moisture and temperature shifts, while improving acoustic performance and delivering the flexibility needed to fit installations into complex dimensions.

In these scenarios, the correct installation technique, combined with high-quality insulation materials, can also significantly reduce maintenance costs.

Types of insulation for heat pump pipework

When it comes to optimising the efficiency of a heat pump system, selecting the right insulation for outdoor pipework is crucial. The insulation not only needs to protect the pipes from environmental factors but also ensure that the system operates at peak performance. The options are; pre-insulated pipework or, where pipework is already installed, retrofitting with a UV resistance material.

Insulation plays a vital role in maintaining the temperature of the fluid within the pipes in the critical section between the property and the outdoor unit. This is particularly important with heat pumps because system efficiency relies on transferring heat from one location to another. Without adequate insulation, the overall system efficiency can be significantly compromised, leading to increased energy consumption and higher operational costs.

Conversely, well-insulated pipes minimise heat loss, allowing the heat pump to operate more efficiently. This reduced energy consumption translates to lower utility bills, making insulation a worthwhile investment. Correctly specified insulation – such as an elastomeric closed cell material - also protects pipes from extreme temperatures and environmental damage, prolonging their lifespan.

When it comes to selecting insulation for outdoor heat pump pipework it depends on whether it is for a new installation of retrofit of existing pipework:

New installations: Pre-insulated pipes, are elastomer insulation materials designed specifically for new heat pump installations. These kinds of pipes come with built-in insulation, which simplifies installation and, because it is applied in a quality controlled production environment, ensures consistent thermal performance.

Being pre-insulated also means the pipes are ready for immediate use, reducing installation time and labour costs. When choosing pre-insulated pipes it is important to verify that they are resistant to UV rays and other environmental factors such as moisture, which makes them suitable for outdoor use.

Check that the pre-insulated pipe lengths offered are suited for space-saving installations so you have the option of installing the heat pump close to the house wall, which is necessary if it is not possible to lay the pipework underground. We offer sets in 2,4,6,8 metre pre-insulated pipes, with two individual pipes (flow and return flow) in one box. Alternatively, there is a 25m coil option. All in DN25 and DN32.

If you choose pre-insulated corrugated pipes it will provide you with good bending capacity/ flexibility, making it possible to implement individual solutions for the choice of installation location of the

heat pump's outdoor unit. For quicker installation, check they are supplied with appropriate quick couplings.

Existing pipework: For existing heat pump pipework that requires insulation, UV-resistant options can be used. These flexible elastomer insulation materials have exceptional resistance to UV radiation and high temperatures. In additional, the closed cell structure and low thermal conductivity of these materials keeps water vapour from diffusing in and reduce energy losses, protecting and optimising the efficiency and life time expectancy of the installation.

While remaining flexible at application temperatures of up to 150°C, being dust and fibre free and easy to install without special tools, makes it an easy installation. We developed our product so that is doesn't need additional jacketing, does not degrade in sunlight and withstands incidental oil contact.

Due to the thermal properties of these kinds of elastomer insulation materials, the heat flow from the air source unit to inside the building is kept at its utmost minimum. The evenly spread, homogenous and long term stable closed cell structure prevents convection heat loss, ensuring very low thermal conductivity of the insulation material.

Retrofit is an approach that is often preferred with contractors and their customers because it can be more economical than replacing the entire system.

Factors to consider when choosing insulation

Whether for a new installation of upgrading an existing, selecting the right insulation involves considering several factors to ensure optimal performance and longevity:

Pipe size and type: The diameter and material of the pipes will influence the type of insulation required. It is necessary to measure the outer diameter of the pipes to be retrofitted accurately to ensure a proper fit.

Environmental conditions: Consider the climate and environmental conditions where the pipes will be installed. Areas with extreme temperatures or high UV exposure may require more robust

insulation solutions. If this is the case, an elastomeric insulation that has a high UV-resistance is best suited.

Installation location: The location of the pipes — whether they are buried underground, exposed to the elements, or situated in a sheltered area — will affect the choice of insulation. For example, underground pipes in a shallow trench may require more insulation to prevent freezing.

Resistance to impact damage: Where there is potential for mechanical impact on the pipework, there are pre-coated solutions available. These also provide wash-down waterproofing, whilst being easy to clean and UV resistance for external use. It requires no additional painting or covering and can be used on underground pipework, including main cold water and ground source heat pumps.

Fire safety: Flexible elastomeric foams with improved fire-retardant properties are available. These have low smoke generation and can be specified with our Arma-Chek® Wrap, a self-welding material with high mechanical resistance that is 100 percent recyclable and free of halogens, silicone and solvents.
It is simply wound around the insulated pipe with an overlap of 20 mm. The self-welding material bonds to the surface of the insulation without any further action. It does not vulcanize immediately, but the installation can still be adjusted within 10 to 20 minutes after application.

Installation best practices: Proper installation of insulation is crucial for achieving the desired performance. It should fit snugly around the pipes to prevent gaps that could lead to heat loss and one of the best ways of achieving this is the use appropriate adhesives or tapes to secure the insulation in place.

Special attention should be given to joints and connections, as these areas are prone to heat loss. Use UV-resistant tape to seal any gaps and ensure a continuous layer of insulation. Moisture can also compromise insulation performance and so it is important to ensure that the insulation is installed in a way that prevents water accumulation, particularly in outdoor settings.

Optimising efficiency: Choosing the right insulation for outdoor heat pump pipework is essential for maximising efficiency and reducing energy costs. Whether opting for pre-insulated pipes or retrofitting existing pipes, both with UV-resistant elastomeric insulation, understanding the specific needs of the system will guide your decision. By considering factors such as pipe size, environmental conditions and installation best practices, you can ensure that your customers' heat pumps operate effectively for years to come.

In summary, investing in quality elastomeric insulation not only enhances the performance of the heat pump but also contributes to long-term savings and environmental sustainability.

Info
www.armacell.com

The ACR & HEAT PUMP Trainee Of The Year Awards

HEADLINE SPONSOR

MITSUBISHI HEAVY INDUSTRIES
AIR CONDITIONING & WATER HEATING

SPONSORS

Air Conditioning Accessories Ltd
BEIJER REF ACADEMY
DIVERSITECH INTERNATIONAL
refrec RECLAIM
YELLOW JACKET

SUPPORTERS

wes women's engineering society
REI Renewable ENERGY INSTALLER
THE ACR JOURNAL
HEAT PUMPS TODAY

Leeds Marriott Hotel

4 Trevelyan Square, Boar Lane, Leeds

WE ARE LOOKING FORWARD TO SEEING YOU ALL ON 4th DECEMBER 2025!

ENTER HERE

The race to decarbonisation

As Europe intensifies its efforts to combat climate change, the decarbonisation of commercial properties remains a challenge. Transitioning away from fossil fuel-based heating systems to sustainable alternatives is no longer optional but a necessity explains **Graham Smith**, Commercial Director UK&I, Carrier Commercial HVAC.

It's time to decarbonise

The urgency of the decarbonisation challenge cannot be overstated. Buildings account for just over a third of global energy-related carbon emissions[1], making innovative HVAC solutions essential to achieving climate targets. In particular, heating systems reliant on gas or oil represent a key area for innovation and improvement.

As policymakers and building owners seek to reduce their carbon footprint, high-performance heat pumps are emerging as a compelling solution, especially those that can deliver reliable performance in colder climates and meet the high temperature demands of commercial and industrial properties.

Moving beyond hybrid systems

We're at a point where buildings still rely on hybrid heating systems, which supplement heat pump performance with fossil fuel backup. But technology has now advanced to the point where fully electric systems can match or exceed these hybrid solutions, even in challenging weather conditions.

New-generation high-temperature air source heat pumps, like Carrier's AquaSnap® 61AQ, operating on natural refrigerant R-290, are capable of delivering hot water temperatures of up to 75°C, with reliable operation even in outdoor conditions as low as -25°C. This makes them suitable for replacing gas boilers outright in many existing buildings across Northern and Central Europe.

Designing for performance, flexibility and future readiness

One of the enablers of this shift is modular system design. Scalable configurations now allow systems to be adapted to a wide range of applications, from small commercial buildings to district heating networks. This modularity not only simplifies installation and maintenance but also ensures that systems can be expanded or adapted as demand changes.

Key to system efficiency is the use of natural refrigerants.

Graham Smith, Commercial Director UK&I, Carrier Commercial HVAC

Source

1. https://www.iea.org/energy-system/buildings

The role of digital innovation

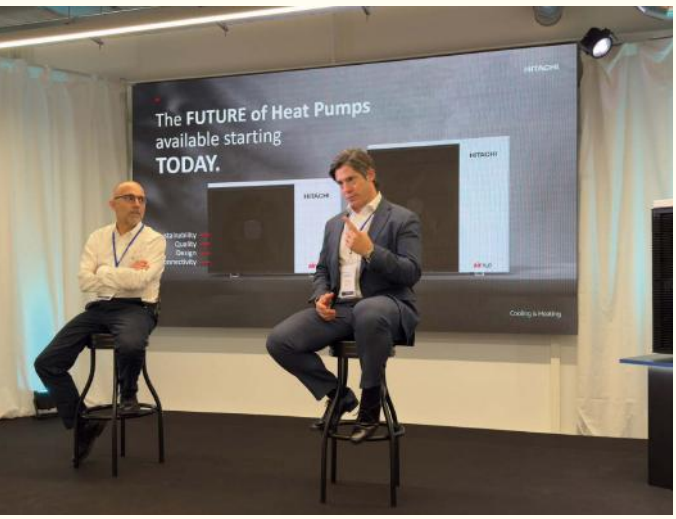
Digitalisation also plays a growing role in enhancing the performance and reliability of HVAC systems. Advanced control platforms now allow for remote monitoring, predictive maintenance, and real-time performance optimisation. This not only reduces downtime and operating costs but also empowers building operators to make data-informed decisions that align with their energy and carbon reduction goals.

Supporting the transition

The shift to clean heating technologies is one of the most impactful steps the commercial sector can take toward decarbonisation. The development of scalable, efficient and smart-enabled heat pump systems is a strong indicator of where the market, and regulation, is heading.

With clear signals from government policy and growing demand for sustainable solutions, high-performance heat pumps offer a positive path forward for many commercial and industrial building owners. The transition is not without complexity, but with careful planning and the right technologies, it is increasingly within reach.

Info
www.carrier.com



Next generation heat pump launch

Hitachi Cooling & Heating launches next-generation airH2O R290 and R32 Heat Pumps, setting a new benchmark in sustainability, safety, and comfort.

Heat Pumps Today, along with other distinguished press, were invited to Barcelona to visit the Hitachi factory for the unveiling of the new air-to-water heat pump range. This range features two models: airH2O 800 R290 (monobloc and hydrosplit) and airH2O 600 R32 (refrigerant split). Fully designed and manufactured in Europe to meet the evolving demands of sustainable, low-carbon heating across the region, this new is suitable for both refurbishment projects and new residential builds.

R290: the sustainable choice for a greener future

The newly introduced airH2O 800 series run on the eco-friendly R290 refrigerant.

R290 (propane) is a natural refrigerant with a Global Warming Potential (GWP) of just 0,02 in last GIEC report, making it one of the most climate-friendly options currently available. In line with evolving EU F-Gas regulations, this choice reduces environmental impact while maintaining exceptional performance.

"This is not just a new product – it's the beginning of a new era in our air-to-water heat pump portfolio," said **David Bioche**, EMEA Marketing & Product Management Director Hitachi Cooling & Heating.

One of the most silent heat pumps on the market

With a sleek, modern design, these units are said to be crafted to blend effortlessly into any environment, while providing comfort for end-users. A feature of the airH2O range is its advanced noise reduction system. The outdoor units have been engineered with several enhancements to minimize acoustic impact, including:

- A vibration-absorbing structure to reduce mechanical noise
- An optimised fan and motor design for smoother, quieter operation
- And a dedicated silent mode, ideal for night time use or sound-sensitive environments

These elements work together to offer discreet comfort, which is said to be barely noticeable yet always effective.

Revisiting the Bosch acquisition

BOSCH aims to expand its range of heating products, invest in future-oriented solutions, and strengthen its position as a key player in the HVAC industry worldwide This acquisition, expected to be finalized during the summer, opens new opportunities to accelerate the transition towards more sustainable and high-performance solutions and positions Bosch to move ahead in the growing market for energy-efficient HVAC solutions.

www.hitachiclimat.fr

Heat Pumps abound at InstallerSHOW 2025!

The ACR Journal and Heat Pumps Today team welcomed so many readers on to their stand. Visitors also included; manufacturers, wholesalers/distributors and even end-users, all of whom had some great stories to share.

The team were extremely busy and much time was spent 'out and about', visiting a plethora of heat pump related stands and exhibitors. This article touches on some of those who had displayed new technology, products and innovation throughout those 3 days.

"Thank you to everyone who joined us for InstallerSHOW 2025 – our biggest and best event yet! Over three packed days, more than 30,000 industry professionals explored the latest innovations across heat, water, air, energy, and the built environment. With 800+ exhibitors, live demos, and thought-leading content sessions, the 2025 show was a landmark moment for the sector." Say the InstallerSHOW.

Plans are in place for InstallerSHOW 2026, returning to the NEC Birmingham from 23rd to 25th June – we'll look forward to seeing you there.

Go Geothermal provided major launch innovative CTC Swedish heat pump models

Based in Sweden, CTC is one of Europe's manufacturers of heating products with over 100 years' industry experience. The brand will debuted UK-first ground source technology at The Installer Show in partnership with Go Geothermal.

The CTC Cube GSHP is an innovative R290, inverter-driven, externally mounted ground source heat pump that represents a UK first.

"We've been growing our presence at The Installer Show for three years now, with our stand increasing in size each time," explained Darran Burrage, commercial director at Go Geothermal.

"This year was our biggest yet due to the exciting new heat pumps we're launching. The show has always delivered very positive meetings with existing and new installers, specifiers and merchants looking for innovative renewable options for their projects."

The company also showcased the new CTC C100 comfort range, designed specifically for the price-sensitive market whilst maintaining the quality Swedish finish and design CTC is renowned for. These models complement the full CTC portfolio of air and ground source heat pumps, suitable for applications ranging from premium developments to NHS hospitals.

Century of innovation meets modern technology

CTC's heritage as the world's first manufacturer to design and produce air-to-water heat pumps continues to drive innovation in the Swedish company's product development. The brand's remote monitoring capabilities allow installers to continuously evaluate customers' heating requirements, ensuring optimal efficiency throughout the year.

Supporting the renewable transition

The company will offer free CTC product training at their Retford or Newton Aycliffe offices, including access to their BPEC-accredited training trailer for roadshows with merchant partners. This supports installers in becoming heat pump accredited and helps drive the renewable heating sector forward.

Building on regional success

The company has built loyalty through creative visitor incentives, including free commissioning on first CTC heat pump purchases, £700 discounts on initial orders, and popular goody bags featuring everything from branded T-shirts to children's colouring sets.

www.gogeothermal.co.uk

Intatec unveils heat pump innovations

Intatec, a UK manufacturer of heating and plumbing products exhibited alongside brands ActivTec and Zilmet UK. This year's exhibit put the spotlight firmly on solutions for heat pump systems, in response to increasing demand across the sector.

The IntaKlean Heat Pump Filter with 28mm Reducing Set – a compact, high-flow magnetic filter with an unmatched Kv value of over 17,000 l/h was available to view. It delivers powerful corrosion protection without restricting performance, making it a standout choice for both new and retrofit installations.

Also featured on stand is the Inta Zero, a next-gen anti-freeze valve that prevents freezing before it starts. With a 3°C trigger, zero-drip outlet, and full R290 compatibility, it offers reliable protection for external pipework.

Additionally, the newly launched K Type Ball Valve was available to view, this new design replaces the traditional handle with a removable key type adjuster, enabling the valve to be operated without breaking the insulation seal. Built to last with anti-tamper and anti-vandal features, its pressure rated to PN25 and handles temps from -10°C to 90°C. Available in compression sizes from 15mm to 35mm and WRAS-approved, each valve includes both a red and blue cover cap for hot and cold systems.

In addition to these products, the stand also featured ActivTec's ActivStopLeak, designed to detect leaks as small as 0.1 litres per hour, setting a new benchmark in leak detection and water conservation. Established favourites will also be on stand, including the HIPER II HIU and ActivFlo – each playing a crucial role in improving reliability and efficiency.

Zilmet UK also showcased its Zil-B range of Insulated Buffer Vessels – created to reduce cycling and stabilise flow in renewable systems. With premium insulation, wall brackets and optional feet that allow 100% drainage during maintenance, these features make installation and servicing significantly easier.

www.intatec.co.uk

LG Artcool Gallery Premium combines wall mounted air conditioner with photo display

LG Electronics (LG) showcased its latest advancements in commercial climate solutions at this year's Installer Show.

From its location at stand 5C16, LG unveiled its newest products and technology. From the air conditioner that doubles as digital art to the new contemporary exterior of its R32 Monobloc s II, LG showcased a wide range of innovative solutions that combine energy efficiency, user comfort, and sleek aesthetics

LG Artcool Gallery Premium – The air conditioner that doubles as digital art

The LG Artcool Gallery Premium - was featured on the stand and blends premium climate performance with an LCD display, to create the look and feel of a digital art frame. With its gallery-style design, it's as much a focal point for interiors as it is a functional appliance.

With a choice of sleek wood or modern black finishes, the unit features a 27-inch full HD LCD display that can showcase up to 20 images or videos, personalised via the LG ThinQ app. But it's more than just aesthetics. The Art Cool Gallery includes dual 5W speakers for audio playback, smart widgets for energy and maintenance updates and advanced air care features like Plasmaster™ Ionizer++ to eliminate 99% of airborne bacteria. Freeze Cleaning* and Auto Clean+** modes keep the unit hygienic with minimal effort, while hidden vanes and 3D indirect airflow ensure a comfortable environment without harsh drafts.

Introducing the R32 Monobloc S II heating solution

LG's recently upgraded R32 Monobloc S II was available to view. With streamlined design and low-noise operation, the product delivers the superior quality, efficiency and robust function associated with LG's Therma V range.

Alongside the Monobloc S II, the Therma V R290 was on display with a transparent casing. This unique exhibit offered visitors a rare look inside a heat pump to view the components that make the R290 so quiet, efficient and easy to install.

Multi-V i – For the smarter customer experience

Featuring AI; Multi-V i - LG's most advanced Variable Refrigerant Flow (VRF) system - utilises data on user-behaviour patterns and automatically senses temperature, occupancy, season and humidity levels to create an optimal indoor environment while decreasing energy usage.

That system was also housed in a transparent Multi-V i unit on the stand, so visitors were able to examine the product up close.

LG's All Stars Reward Program

LG also announced an exclusive promotion available to the first five installers that registered for its reward program, LG All Stars, at the show. To participate, installers must have registered between 24-26th June and needed to complete a heat pump purchase

STIEBEL ELTRON UK launched its hpnext series, a brand-new generation of highly efficient, ultra-quiet heat pumps

This launch included a new air source heat pump range, a new ground source heat pump range, and an innovative integrated internal air source heat pump with MVHR. All models in the hpnext series use R290 refrigerant and feature a wide range of design and functional upgrades that mark a significant step forward in heat pump technology.

The InstallerSHOW was the first opportunity to see STIEBEL ELTRON's new centralised MVHR units, the VRC Premium range, offering visitors a first look at this recent addition to the ventilation portfolio.

As part of the event, attendees also had the chance to take part in the STIEBEL ELTRON 'Gold Bar Challenge', where they were in with a chance of winning an instant hot water tap.

www.stiebel-eltron.co.uk

Worcester Bosch announces PowerUp Supercharged trip to Stuttgart, Germany

At the InstallerSHOW, Worcester Bosch announced its PowerUp Supercharged promotion - which offered rewards and the chance to win a place on an exclusive trip for loyal installers.

From 1st July 2025 – 30th April 2026, participating installers will have the chance to go on an exclusive European trip to Stuttgart, Germany, by simply hitting their personalised install targets.

Up to 100 lucky installers will be selected for the Supercharge to Stuttgart trip, taking off in October 2026, with installers who register interest and hit their targets eligible for the trip.

Worcester Bosch is also offering another PowerUp promotion to help installers reach their trip targets by offering even more rewards between July 1, 2025, and April 30, 2026. All loyalty members can earn up to £1,500 of rewards by installing more gas boilers, oil boilers and heat pumps (excluding the Greenstar 1000 range) based on the same period 2024-2025.

The rewards include the choice of loyalty points, Amazon.co.uk Gift Cards* or Love2Shop e-Gift Cards when achieving the following milestones:

- Install 1 extra = £75
- Install 3 extra = £100
- Install 6 extra = £125
- Install 10 extra = £150
- Install 15 extra = £200
- Install 20 extra = £250
- Install 25 extra = £300
- Install 30 extra = £300

*Restrictions apply, see **www.amazon.co.uk/gc-legal**

Speaking about the previous PowerUp trip to Porto, Portugal, **Thomas Hewitt** from Plumble Heating said: "A huge thank you to Worcester Bosch for organising such a fantastic weekend. The insight, conversations, and laughs have made it truly memorable and I'm looking forward to sharing what I've learned and spreading the word about what a great company Worcester Bosch really is."

David Boyeson from DCB Heating Limited said: "This was an absolutely fantastic weekend, I'd like to thank all involved who organised an outstanding trip. You have shown your superiority as always, and everyone on the trip was a joy to be around. As a business, I've always installed Worcester Bosch products, and it's heartwarming to be shown that our hard work is appreciated. You have helped me grow my business over the past 10 years, and I will be forever grateful."

For more information and to activate the promotion, visit: **https://bit.ly/WB_Supercharged**
Terms and conditions apply.

Worcester Bosch launches new installer friendly air conditioning: The Climate 3200i

Worcester Bosch is pleased to unveil the Climate 3200i, a versatile, high efficiency air conditioning unit designed with both homeowners and installers in mind. Combining heating, cooling, dehumidifying, and air purification, the Climate 3200i delivers year-round comfort with minimal hassle.

With outputs ranging from 2.6kW to 7kW and seasonal efficiency ratings of A++ for cooling and A+ for heating, the Climate 3200i offers flexible performance across a wide range of residential applications. As June's surprising 30 degree heat signalled a scorching start to summer, the Climate 3200i provides reliable indoor comfort to help homeowners stay cool through the rising temperatures.

Engineered for ease of installation and service, the Climate 3200i features installer-friendly fittings, and low maintenance washable filters.

For more information, visit

www.worcester-bosch.co.uk/professional/bosch-single-split-air-conditioning-unit-3200i

Renewables specialist promotes ESBE partnership in new video releases

(L-R) Darren Myers, Managing Director at ESBE and Nigel Jefferson, Commercial Director at Secon Renewables.

Hydronics solutions specialist ESBE has worked with Secon Renewables one of its key distribution partners to produce a pair of videos which seek to educate the market regarding the manufacturer's diverse range of valves, actuators and other components, all ideally suited to the efficient operation of heat pumps.

Setting the scene for the two videos, the Commercial Director for Secon Renewables, **Nigel Jefferson**, explained: "We are an independent, renewables supply specialist selling heat pumps and accessories across the country and have been working with ESBE for more than a year now. We were pleased when ESBE approached us about becoming a distributor for their products, because of the reputation and the quality which we know ESBE brings.

www.seconrenewables.com

Daikin green education programme


Educating the next generation

Daikin UK, and climate education specialist Generation C today announced a new partnership, supported by the Greater Manchester Combined Authority (GMCA). The collaboration will deliver curriculum-linked climate education into Greater Manchester schools.

The initiative aims to tackle the green skills and sustainable education gap by connecting classroom learning directly to sustainable careers in the growing green economy. It seeks to turn climate anxiety into positive action by providing students aged 7-14 with a clearer vision for a sustainable future.

Developed by Generation C in collaboration and consultation with Daikin UK experts, the programme features unique learning resources driven by Daikin's real-world stories that integrate into the National Curriculum across STEAM subjects. Students will explore energy-efficient technologies like Daikin's air source heat pumps and gain insights into career paths within the renewables and HVAC sectors.

www.daikin.co.uk

Mitsubishi Electric launches a game-changing, eco-friendly heating and cooling system

Mitsubishi Electric has launched the all-new MSZ-RZ R290 – the latest addition to the M Series range. The new unit is a premium wall-mounted air inverter heat pump system, which delivers efficient heating and cooling all year round.

The MSZ-RZ R290 uses R290, a natural refrigerant with an ultra-low Global Warming Potential (GWP) of just 0.02, to help homeowners reduce their carbon footprint. It also helps small commercial buildings to future-proof against evolving F-Gas regulations, while keeping occupants comfortable through changing seasons.

For further details on Mitsubishi Electric's range of air conditioners visit:

https://les.mitsubishielectric.co.uk/products/air-conditioning/m-series/wall-mounted/msz-rz-r290

Carrier

It's time to decarbonise

Introducing AquaSnap® 61AQ high-temperature air source reversible heat pump using R-290 natural refrigerant

Ready to make a difference?
Scan the QR code.

NATIONAL ACR & HEAT PUMP AWARDS 2026

11th JUNE 2026

BOOK PLACES

ENTER

THE MIDLAND

16 PETER STREET, MANCHESTER, M60 2DS

THANK YOU TO OUR SPONSORS AND SUPPORTERS

Visit www.acrjournal.uk/information/national-acr-heat-pump-awards or email Hayley Comey on hayleyc@warnersgroup.co.uk to find out more