ISSUE 34

APR/MAY 2026

HEAT PUMPS TODAY

ESSENTIAL INFORMATION FOR INSTALLERS

WHAT DO HEAT PUMP PROFESSIONALS NEED TO KNOW ABOUT MCS UMBRELLA SERVICES?

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Women in the heat pump industry: Stevie Mardy P20

Efficient heating for a new build bungalow in Glenavy P24

Cambridge University College paves the way for a sustainable future P26

22 April 2026

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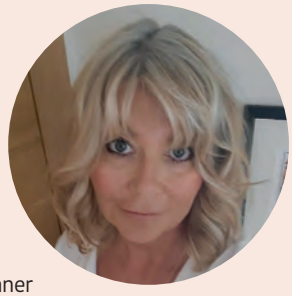
Welcome to the April issue of Heat Pumps Today



This issue of Heat Pumps Today focuses on industry guidance, and a plethora of very interesting case studies. Barry Whyler from Aermec also looks at how heat pumps are becoming the corner stone of the prison service's decarbonisation strategy.

We also get a first look at the highly coveted shortlist of the ACR & Heat Pumps Awards for 2026. This enviable awards dinner is held at the Midland Hotel, Manchester on the 11th of June.

Book your places by visiting **www.acrjournal.uk/national-acr-heat-pump-awards**

I hope you enjoy this edition and look forward to seeing many of you at the FETA Lunch on the 16th of April, and ACR & Heat Pump Awards in June.

Juliet

Juliet Loiselle FinstR, Editor/Publisher

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 Manager & Events
Victoria Liddington
01778 395029
victoria.liddington@warnersgroup.co.uk

Design
Development Design

Production
Viv Lane
01778 392453
production@warnersgroup.co.uk

Published by:
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The Maltings, West Street,
Bourne, Lincs, PE10 9PH
01778 391000
01778 394748
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Smart heat pumps could help cut bills and take pressure off the grid

New UK research suggests that heat pumps could play a much bigger role in stabilising the nation's electricity supply by providing demand flexibility; helping households stay comfortable while reducing carbon emissions and costs.

The study, led by researchers from the Energy and Climate Change Division at the University of Southampton in collaboration with Good Energy Ltd, tested how homes using smart air source heat pumps could automatically adjust their usage to balance the grid during peak demand periods.

In trials across 30 homes in southern England, the researchers found that when households temporarily had their heat pump use reduced during peak grid demand hours, household electricity demand dropped by around 90%, with comfort levels in the homes maintained throughout.

Their findings are published in the journal Applied Energy.

Lowering costs for consumers

The findings show that, with the right technology and coordination, smartly managed heat pumps could help reduce pressure on the grid at critical times, such as during cold winter evenings, while also lowering consumers' costs and supporting the UK's shift away from fossil fuels.

As the UK transitions to green energy and works towards net zero, effective grid management will become increasingly vital to ensure a stable and resilient energy system.

Keep homes warm

This kind of invisible flexibility could play a vital role in helping the UK achieve its climate targets while keeping homes warm affordably.

The research team now plans to explore how these smart systems could be integrated with other low-carbon technologies such as solar panels and home batteries, making it easier for households to generate, store and use energy more efficiently.

The study was part of the LATENT project (Residential heat as an energy system service), which is funded by the UKRI Engineering and Physical Sciences Research Council (EPSRC).

www.ukri.org

(L-R) Ideal Heating Finance Director – Operations Aaron Spence, Apprentice Technician Lewis Speedy and Production Director John Cook, with the handmade copper pipe artwork gifted by Scarborough TEC students.

Ideal Heating welcomes Scarborough TEC students

Ideal Heating has welcomed students from Scarborough TEC to its headquarters in Hull, as part of its ongoing commitment to engaging with further education and inspiring the next generation of heating engineers.

The students, accompanied by teachers, toured several areas of the site on National Avenue in the city, including the main production hall and heat pump manufacturing facility.

They also received an overview of the company's climatic chambers, where testing takes place.

They also learned about Ideal Heating's no-fault production methods and fully functional test processes, and the company's National Training and Technology Centre at its Bridgehead site near the Humber Bridge, where installers are being re-trained to install, maintain and service heat pumps.

The students marked the occasion by presenting Ideal Heating with a handmade copper pipe artwork spelling out the word "Ideal".

The visit comes at a critical time for the industry. The UK needs 120,000 heat pump engineers by 2030, yet today there are only around 18,000, making engagement with the next generation of engineers and technicians more important than ever.

www.idealheating.com

The HEAT PUMP Fix

ARE YOU GETTING 100% OF HEAT?

Is condensate causing a problem?

DiversiTech International (formally known as Pump House) has been working in the UK heat pump sector for over 18 years. **Paul Greengrass** –Product Development Director – provides air source heat pump installation solutions.

THE PROBLEM OF CONDENSATE

In a correctly installed heat pump there will be volumes of condensate being produced by units during the day-to-day operation and defrost cycle. Units can produce up to 50 litres of condensate per day - an absolute maximum considering units do not run every day at full capacity. This equates to approximately 3,000 litres per year.

These volumes are almost double that of a condensing boiler, and taking into account that the unit is installed outside - exposure to cold and freezing temperatures is even more prevalent.

Although not acidic like the condensate from a boiler, this condensate still needs to be routed into a drain or soak away to avoid the risk of ice forming on paths around the unit.

A soak away can be installed under the unit to provide quick draining from the heat pump. The soak away should be installed away from the building to avoid damp ingressing into the footings.

The capacity of the soak away should be similar to that of the boiler soak away as descibed in BS 6798 standards. BS 6798 calls for a 400mm deep hole, 300mm in diameter with a preformed plastic drain tube. If correctly installed the soak away should include around 25kg of chippings to provide adequate drainage. A Geotextile membrane is also recommended to prevent soil and root ingress into the soak away.

INSTALLING ADEQUATE SOAK AWAY

Pre bagged soak aways are available for quick and easy installation. These are used to safely dispose of the condensate from all domestic-sized air source heat pumps where drain routing is not available. This prevents the condensate from flowing onto paths and driveways and creating a slip hazard.

The hazards when your install does not have adequate condensate removal

The DiversiTech ASHP Soak-Away in the ground ready for the completion of the installation

See Soakaway installation video

Visit our website https://diversitech.global/ or contact our sales team on sales@diversitech.com

New homes to go gas-free with heat pumps and solar from 2028

Guidance recently published by the Government means that from 2028, no new homes will be on the gas network - and will instead be on a heat network or get a heat pump - and they must have solar panels on their roofs covering an area equivalent to 40% of the ground floor space.

Charlotte Lee, Chief Executive, HPA UK, said: "We are delighted to get confirmation that following a transition period, all new homes and buildings will benefit from low carbon heating such as heat pumps and heat networks. Coupled with solar PV, heat pumps and connections to heat networks provide a future proofed solution which will strengthen the UK's energy security.

"Whilst the sector has been scaling up, with over a quarter of new homes built in the UK in 2025 having a heat pump, this clarity will unlock further investment into the supply chain, supporting thousands of highly skilled jobs, and contribute to the UK's wider economic growth."

Garry Felgate, CEO of The MCS Foundation, said: "The confirmation that the majority of all new homes in England will have solar panels and low carbon heating systems such as heat pumps is very good news – for energy security, for the UK's progress toward a carbon-free future, and for the countless households that will benefit as a result.

"What matters now is implementation, and ensuring households have confidence in the technologies their new home will come with."

To read the story in full visit: **https://tinyurl.com/y2f9unzh**

Positive news from recent heat pump deployment statistics

Recent Heat Pump Deployment statistics data has shown that 51,886 retrofit heat pump installations were recorded in 2025, a 7% increase on 2024.

Commenting on these results **Sachin Vibhute**, Technical Consultant at LG said: "The 7% rise in heat pumps installed in the UK last year, to 51,866 shows the technology is becoming an increasingly mainstream solution to the green heating challenge.

"However, installations will need to accelerate further if the UK is to meet its net zero targets. While support such as the Boiler Upgrade Scheme is helping to reduce upfront costs, there are still barriers for some households. This is particularly true in the UK, where much of the housing stock is older and retrofitting low-carbon heating systems can be more complex and costly.

"Maintaining strong and consistent policy support will be critical to sustaining momentum and giving households the confidence to make the switch. At the same time, expanding training pathways will be essential. Investment in installer training, including industry-led academies and upskilling programmes, will help build the skilled workforce needed to meet rising demand.

"With the right support from government and industry, heat pumps can play a central role in helping the UK move closer to its net zero ambitions."

www.lg.com/uk

Drayton strengthens regional sales team with two key appointments

Drayton, has further bolstered its regional sales team with the appointments of **Georgia Burke** as Area Sales Manager for the Central Region and **Dave Velen** as Area Sales Manager for the North East.

In his role, Dave covers the east side of Northern England, including Hull and East Yorkshire, through to the North East corner of Scotland. He is responsible for driving regional growth, strengthening merchant relationships, and increasing product specification across the area. Dave will also focus on engaging with regional builders, heating contractors, social housing providers, new build developers and non-residential contractors to offer support across a wide range of projects.

Dave brings extensive industry experience, including several roles that span a total of 23 years with City Plumbing, where he was most recently a Senior Account Manager within the regional team. Dave also spent seven years focusing on social housing within the national team before returning to a regional position covering the North East and Cumbria.

In her new position, Georgia is responsible for specification across social housing, new build developments and large contractors. Her focus is on developing strong customer relationships, identifying new opportunities, and supporting specification processes to help drive growth throughout the Central Region of the country.

Georgia Burke as Area Sales Manager for the Central Region

Dave Velen as Area Sales Manager for the North East.

Georgia joins Drayton with over a decade of experience within the industry behind her. She previously spent six years at Grundfos, where she developed strong commercial and technical expertise. Prior to this, she worked for H & V Controls for five years, giving her valuable insight into the controls market and customer needs.

www.draytoncontrols.co.uk

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From high energy use to high efficiency: Decarbonising the prison estate

Aermec's, Regional Sales Engineer, **Barry Whyler**, looks at how heat pumps are becoming the corner stone of the prison service's decarbonisation strategy.

Prisons are resource-intensive but in common with other public institutions, the prison service is assessing the way its facilities operate. Naturally security orientated, their size and operation present several and unique challenges with many reliant on outdated systems that can contribute to increasing operational costs as well as environmental degradation.

Nevertheless, a common denominator in prison services around the world is to improve their energy efficiencies. Great strides are being made to address infrastructure and architecture in the context of environmental responsibility and sustainability.

Estimates cite over 11.05 million people incarcerated across the world with the Unites States holding the most at 2.2 million. This results in significant environmental footprints using vast amounts of energy and resources. Last year's Green Prison published by the United Nations (UN) asserts that all stakeholders including those detained can become agents for change and encourages greater sustainability to reduce prisons' impact which can also improve working and living environments.

Worldwide efforts

A snapshot highlights what other countries are achieving: Finland considers carbon neutrality at the planning stage for all new prison infrastructure projects which includes thick insulation to mitigate temperature variations and advocates the installation of heat pumps. In Northern Ireland, the prison service uses a monitoring and targeting system so that energy usage in real time 24/7 can be measured. Netherlands is removing reliance on gas and fossil fuels. Canada has committed to phase out heating oil by 2028 and increase installation of heat pumps in all buildings including prisons. In New Zealand, the prison service's sustainability approaches also include the use of heat pumps. While in Australia steps are being taken to ensure that new builds use heat pumps with further efficiency measures derived once the national grid decarbonises.

HMP Eastwood Park Falfield Gloucestershire

Here in the UK, the prison estate managed by the Ministry of Justice (MOJ), is undergoing a significant transformation to cut CO2 emissions and improve the efficiency and sustainability of facilities. The latest prison to implement targeted measures in support of the government's net zero goals is Gloucestershire's HMP Eastwood Park.

The challenge with aging buildings

Not dissimilar to small towns, prisons operate 24/7, are densely occupied and consume significant amounts of energy. A key challenge is the ageing condition of much of the prison estate which can make retrofitting challenging and costly.

But HMP Eastwood Park in Gloucestershire has already started decarbonising its estate. Two prison blocks, originally constructed in the 1960s, are undergoing upgrades to reduce energy costs and carbon emissions. This initiative focuses on installing Aermec heat pumps and improving insulation at the closed category prison in South Gloucestershire for up to four hundred women aged eighteen and over.

The decarbonisation programme

Outdated gas boilers are being replaced with Aermec heat pumps thanks to £3 million secured in funding from the Ministry of Justice (MOJ). Prisons are complex public sector sites and carbon intensive. In addition to installing air source heat pumps, additional measures will also be implemented as part of the decarbonisation programme. These include improved roof and cavity wall insulation, an upgraded pumping system, building management system (BMS) upgrade, and the installation of new double-glazed windows.


Barry Wyler, Regional Sales Engineer, Aermec UK

Delivery of these practical steps are designed to reduce energy consumption, lower operational costs, and diminish the prison's carbon footprint. Despite operational, technological, and financial challenges posed by aged buildings combined with the historical significance of many buildings, prisons like HMP Eastwood Park are undergoing energy efficient upgrades. HMP Eastwood Park's efforts form part of a nationwide initiative that aims to reduce the carbon footprint of public sector buildings which sets and example and reflects the MOJ's commitment to environmental responsibility.

Improved energy use

It is anticipated that the prison will benefit from lower carbon emissions due to improved energy use. By installing air source heat pumps, the prison will also reduce overall energy costs. These changes contribute to meeting the government's goal of net-zero emissions by 2050 and support long-term sustainability within prison estates.

NRG low GWP air source heat pump

Four reversible air source heat pumps (ASHPs) are being installed using R32 refrigerant, a low GWP (GWP of 675) which reduces the environmental impact of HVAC systems, with extensive attenuation packages to reduce the operational noise levels and provide acoustic comfort in the complex.

Although designed for dual functionality, to provide chilled water for cooling and high temperature hot water, the units will be providing heating only. There is a cascade arrangement with the NRG ASHPs producing a water outlet at no more than 45ºC. This source water feeds Aermec's WWB units where heat is extracted from the source water. The source water then returns to the ASHPs at 40ºC and the ASHPs continue to raise the water temperature back up to 45ºC.

The WWB water-to-water units will concurrently output higher temperature water (the maximum is 80ºC) that provides the heating. The output temperature was designed to provide heating at 78ºC/80ºC.

Four water-to-water heat pump units are in one prison block due to a larger size and heating demand whereas three further units are in a smaller building where three WWB 900 units are sufficient. The main use of the hot water generated is for central heating but also domestic hot water (DHW) for showers, cleaning, and other ancillary functions.

Aermec developed the irreversible (heating only) WWB 900 water-water heat pump units for this project with the aim of guaranteeing high efficiency at full and partial load. Designed for indoor installation where the application requires hot water at high or extremely high temperatures from a low or medium temperature source, features include highly efficient compressors, plate heat exchangers with reduced pressure drop and two independent cooling circuits.

Irreversible units are designed for dedicated heating or cooling operations. The plate heat exchangers efficiently transfer heat between fluids with minimal energy loss. The two independent cooling circuits enhance reliability and operational flexibility by ensuring that even if one circuit requires maintenance, the system continues operating without interruption.

These features ensure consistent performance, lower energy consumption, and greater reliability, making the water-to-water units ideal for demanding industrial or commercial heating needs.

MOJ's net zero goals

The MOJ is implementing similar upgrades across its entire estate with the construction of new build greener prisons whilst upgrading legacy facilities using the latest technologies and recycled material as part of its on-going strategy to meet net zero goals.

Beyond direct carbon reduction initiatives, programmes are being implemented to align prisons with the green economy and to help offenders acquire and develop skills and training that can equip them for jobs in sustainability upon their release. These include improving biodiversity. Eastwood Park was the first prison to be awarded National Plant Collection status by the conservation charity Plant Heritage. The prison's collection focuses on eleven species of wild garlic known as Tulbaghia, which is known for its resilience and medicinal uses.

This recognition underscores the prison's dedication to plant conservation and provides educational opportunities for staff and inmates. These initiatives help to foster a sense of community environmental stewardship and improve wellbeing within the prison.

Prisoners also participated in an exhibition held by the Royal College of Nursing Library and Museum and Koestler Arts, where their artwork focused on the history of prison nursing and featured themes exploring resilience and care.

The prison's education department has previously been nominated and won a Governor's 'Value Champion Award for teamwork. The team helped deliver and support education for women from entry level qualifications through to full degrees.

The MOJ which conducts extensive analysis encompassing greenhouse gas emissions to waste management and recycling as well as employment and training. The re-introduction of gardens supplies prison kitchens with produce, but also improves the health of those incarcerated, equipping them with new skills that aid reintegration and reduces emissions.

The legally binding Paris Agreement of 2015 requires signatory states to establish a climate action plan that is updated every five years and translated into action. The MOJ is in alignment with those aims. Work started at HMP Eastwood Park in January last year and will be completed by October 2026. The heat pumps will generate significant costs savings, demonstrate operational efficiencies, environmental stewardship as well improving the well-being for imprisoned people, staff, and support services.

www.aermec.co.uk

WWB - Booster - STANDARD

The UK's increased use of heat pumps: Why correct specification is essential

Dean Loizou, Design Director at Whitecode Consulting, examines the different types of heat pumps and underscores each system's advantages and disadvantages to enable the correct specification of them.


Dean Loizou, Design Director at Whitecode Consulting

While the government's 2050 net zero target is driving heat pump demand, there is some confusion in regard to the most suitable heat pumps, how, where and when they should be utilised in building design and what happens if they're placed incorrectly.

Maximising the potential of heat pumps requires a true understanding and appreciation of the most suited system to the environment and a holistic approach between designer, developer, specifier and contractor.

There are four categories of heat pumps; air source, exhaust air, ground source and water source.


Air source heat pump

Air source

Air source heat pumps (ASHPs) gather heat from the air and transfer it to a fluid refrigerant. This is passed through a compressor – raising the fluid's temperature before transferring the heat to the building's central heating system.

There are two types of ASHP; monobloc and split. As a closed refrigeration cycle, monobloc systems transfer the heat to water and then either replace a boiler or be used on new low temperature district heating systems.

By continuing the refrigeration circuit into the building and using VRF pipework that's distributed to internal units to provide heating and cooling, split systems are typically more efficient than monobloc systems.

With split systems separating the heat pump into indoor and outdoor units, some of the heat transfer occurs inside the building where it's warmer – resulting in less heat being lost.

ASHPs typically produce more heat energy than the electricity they consume – leading to lower overall operating costs over time.

They excel on sunny, south-facing walls. However, they must be installed away from bedrooms to reduce any risk of noise pollution and should not be located in enclosed spaces with insufficient ventilation, such as basements. Otherwise, this could lead to reduced outputs or the systems cutting out and not providing any heat.

ASHP installation cost varies depending on the building requirements and the size of the pump. But, on average, it's approximately £11,000. The government's Boiler Upgrade Scheme (BUS) helps offset the significant initial outlay, granting residents in England and Wales £7,500 in funding towards the overall cost.

Exhaust air

Exhaust air heat pumps (EAHPs) are ducted to the building façade and each room within the dwelling, utilising heat from inside and outside the dwelling to heat up or cool the space via the building's ventilation system or a wet heating/cooling system.

With heating and cooling provided via the internal unit – and only a water and electrical connection required to the dwelling – EAHPs remove the need for additional communal heating plantrooms.

There are various types of EAHPs, with some utilising an integral MVHR system to provide heating and cooling to the space, some providing hot water only and others providing heating and cooling via a wet-based system, such as underfloor heating, fan coil units or radiators.


Exhaust air heat pumps

The ductwork used by the integral MVHR system to connect to the heat pump circuits not only provides ventilation but also, crucially, distributes heat to the space. The Part F ventilation and Part O cooling capabilities therefore remove the need for any additional venting requirements required for more conventional MVHR systems.

ASHPs are typically rated at 5kW, meaning they can often be too large for very low energy buildings. However, EAHPs are able to deal with smaller heating demands for very low energy buildings and Passivhaus properties.

EAHPs are eligible for the BUS, significantly helping to cover the £3,000 to £9,000 installation cost.

Ground source

Separated into horizontal and vertical systems, ground source heat pumps (GSHPs) collect heat from the ground and transfer that heat into energy for the building.

Horizontal systems are laid in a shallow trench over a large surface area – ideal for large-scale developments with plenty of space.

Utilising a borehole to ensure pipes are securely buried, vertical systems may prove more suitable for developers with little space to work with.

Regardless of the system chosen, pipe interiors feature a mixture of water and antifreeze, known as a thermal transfer fluid (TTF). This absorbs heat from the ground, which is passed through a heat exchanger into a refrigerant and then compressed to raise its temperature, with subsequent heat transferred into the central heating system.

Maintenance is often minimal and GSHPs typically last between 20 and 25 years. Leveraging the stable, consistent ground temperature, they provide more effective heating, operating at 300% to 400% efficiency and offering low running costs compared to more conventional systems.

However, installation can often cause significant disruption to the surrounding land and horizontal trenches require large amounts of land, making them unsuitable for smaller properties. And such, the Environmental Agency will need to be consulted.

GSHPs require placement in basements, garages or utility rooms and may need additional space for buffer tanks and hot water cylinders. This exacerbates the importance of correct specification and implementation during initial building design stages.

With the typical cost of GSHP installation around £29,000, developers and specifiers can also apply to the BUS to receive £7,500 in funding towards it.

Water source

Water source heat pumps (WSHP) extract energy from the water and turn it into heat – no matter what the temperature of the water.

There are two main WSHP systems; closed loop and open loop. Closed loop systems are used in cooling towers, lochs, large ponds or lakes for heat rejection circuit. Sealed pipes are filled with an anti-freeze fluid and then submerged under the water. The fluid is pumped through the pipework, gathering heat energy from the water and then circulating back to the heat pump.

Open loop systems are used with boreholes near areas with suitable geological conditions or rivers. Water is taken from the borehole and lifted to the surface, extracting heat energy and then returning the cooled water to a separate borehole.

With a risk of the systems freezing as colder water leaves the heat pump, they must be correctly sized and there must be enough water flow to ensure freezing doesn't occur.

Fairly large in size and producing a low-level humming noise, WSHPs will require installation in plant rooms, basements or utility spaces and be situated away from bedrooms.

WSHP installation costs typically range between £6,000 and £11,000, with developers and specifiers able to apply to the BUS to receive funding.

Correct specification is vital

While traditional fossil fuel boilers are often oversized to ensure demand is met, heat pumps require precise specification to match property heat loss. Otherwise, this risks high operating costs, poor performance, increased wear and significant inefficiencies.

A properly-sized heat pump will prevent frequent turning on and off – reducing the strain on the compressor and extending its lifespan while operating as efficiently as possible.

Accurate sizing that accounts for room-by-room heat loss calculations will also ensure the property remains warm in winter and cool in summer.

Heat pump location affects performance and occupant comfort, impacting noise levels, maintenance demands, longevity and overall system efficiency.

While modern units are fairly quiet, they are still likely to cause a noise disturbance if installed near reflective walls or bedroom windows.

Furthermore, well-placed units – well away from corners or dense plants – will have access to unobstructed airflow and be ideally positioned for annual servicing, meaning they'll be less likely to require expensive repairs.

Maximising heat pump efficiency and ultimately reducing energy consumption and expenditure for the building owner or end user will be crucial. The solution is a holistic approach that involves contractors, specifiers and architects at the earliest possible opportunity and has the most effective placement at heart.

www.whitecode.co.uk


Baxi's academy training rooms

What do heat pump professionals need to know about MCS umbrella services?

A question and answer with **Scott Riley**, Baxi's Head of Technical Solutions – Residential.


Scott Riley, Baxi's Head of Technical Solutions – Residential

How have recent policy changes such as the Boiler Upgrade Scheme (BUS) and Warm Homes Plan (WHP) influenced installer demand for MCS support?

They've both caused increases in demand for MCS support in two ways. First, government-funded grants such as the BUS turn into immediate homeowner enquiries, so installers are seeing more opportunities to win work. Second, the conditions attached, like MCS-accredited installations, specific evidence and compliant designs add an extra layer of admin to jobs. This can be a speedbump for many installers as they're either unfamiliar with the process, or simply don't have the time available to complete it.

The administrative burden covers heat-loss calculations, creating compliant designs, filling in MCS forms, collating evidence for grant claims and checking parts compatibility — tasks that are office-based and not a day-to-day role for many installers. As a result, they can either seek targeted training on sizing and grant paperwork, or use umbrella partners to remove the administrative load while they build practical experience on site. The net effect is more appetite for short, practical courses and for umbrella support that guarantees compliant submission.

Do you think government incentives adequately support installers in upskilling? What still needs to change?

There is useful support out there, but the detail and scale of incentives matter. The BUS was initially set at £5,000 and was later raised to £7,500 because many installs require additional fabric or system upgrades beyond the heat pump itself. That tweak recognises the real costs of secondary works — insulation, pipework, cylinder swaps — which can otherwise stall a sale.

Schemes in Ireland and current trials in France illustrate how larger or more specific grants clarify the need for homeowners to fund upgrades themselves, which can make the sale a lot easier as there are no nasty surprises. Beyond grant size, more transparent homeowner messaging would help. When customers understand long-term savings and do not face surprise upgrade bills, installers find it easier to justify the time spent gaining qualifications.

How do MCS umbrella services help installers on their first few Air Source Heat Pump (ASHP) installations, and how is that different for installers who have been working with ASHPs for a few years?

For installers taking on their first ASHP job, a comprehensive umbrella scheme should support them at every step. The umbrella partner can handle heat-loss calculations,

system design, parts lists, MCS paperwork and grant submissions, and sometimes offers at least one pre-install and one post-install visit. Removing that office load usually saves around one to two days of work per job and lets engineers learn the physical sequence on site rather than getting bogged down in forms. Good umbrella services also provide phone and email support throughout a project, so installers have rapid access to design or compliance answers.

For more experienced installers the technical learning curve is smaller and their priority shifts: they want to avoid admin, reduce compliance risks and protect cashflow. For that group, an umbrella that takes on the paperwork while leaving the installer in control of pricing and on-site execution is especially valuable.

With Baxi's MCS umbrella service, for example, as a first step, our team will provide an estimation of the size of the heat pump needed to deliver comfort to the homeowner in readiness for the installer to build their quote. Once the homeowner is happy to progress further, our engineers then carry out an in-person site survey leading to a comprehensive heat loss report and detailed system design. This includes everything from radiator sizes to pipework calculations, so that the installer can provide a final project proposal for the customer. We will also provide a complete parts list for installers to source from their preferred merchant. If accepted, we then administer the MCS paperwork on the installer's behalf, freeing them up to move forward with the installation work itself.

As part of the service, we also check the property's eligibility for the BUS, taking care of the compliance and MCS paperwork needed to access the grant funding.

When we look at the ASHP process from start to finish, what are some common hurdles installers come up against, and how does Baxi's umbrella service address these?

Three main hurdles stand out to me: accurate sizing and component selection, handling grant claims, and the sheer volume of admin that eats into working hours.

Incorrect sizing or incompatible part choices lead to under-performing systems, on-site changes and costly callbacks. Incomplete or misfiled paperwork delays grant approval or risks rejection. Baxi's umbrella service addresses these directly by producing a parts list and quotation to speed up procurement. It undertakes design and heat-loss calculations to reduce sizing errors and prepares the compliance documentation. It also manages grant submissions to lower rejection risk. Phone and email support is always at hand, plus at least two site visits to keep projects on track. That combination reduces surprises and cuts the time from enquiry to completion.

What makes Baxi's MCS umbrella service stand out from others available?

The difference is the mix of human expertise and digitised processes. Our technical team is formed of specialist engineers who understand on-site realities like fault-finding, practical parts choices and how designs behave in real properties. This reduces unexpected site changes. The digitised element produces consistent, pre-populated compliance forms and speeds up quotation generation, so paperwork is quicker and free from errors that can slow things down and eat away at earnings. Ultimately, having expert input lowers the risk of errors, speeds up the admin process, and helps ensure the installation itself is completed to a high standard.

Installers have told us they wanted a single, low-friction route into AHSPs in a market that has rapidly become fragmented with more suppliers, more product variants and more grant-driven enquiries. So we launched the scheme to provide that route: clear parts lists, pre-populated documentation, technical backup from experienced engineers and on-site support so installers can win work without needing to be drowned in paperwork. The timing reflects the pace of market change and the practical need to remove early barriers so installers can capture emerging volumes quickly and with confidence.

How can installers make the most of umbrella services while building their own competence?

Treat the umbrella as a support system. Offload compliance and admin on early projects while observing the design logic, parts choices and documentation workflow. Take supervised visits seriously, replicate the verified parts lists and methods on similar subsequent jobs where appropriate, and gradually assume more of the design and submission tasks. Over time, you can reduce reliance on umbrella services for routine work while still calling on them for more complex or high-risk installations.

What advice do you have for installers trying to choose between training and outsourcing admin to an umbrella service?

It's not an either/or decision but rather a combination of the two. Where installers see a commercial potential, they should upskill, and Baxi has a raft of training opportunities[1] available to support that.

If admin has become a pain point, that's when Baxi's MCS umbrella service can relieve the burden. That combination helps small teams win heat pump work, protect margins and scale without being overwhelmed with compliance requirements. The umbrella acts as a safety net while competence, confidence and capacity are built.

Baxi.co.uk

Source
1. https://tinyurl.com/3jvksdhz

No padding, no waffle, just the stuff you actually need to know.

No plans for World Earth Day again this year? That's almost as bad as missing Mother's Day. Oh... You forgot that too? Alright, let's start again.

About the Heat Pump Show

April 22nd 2026 is World Earth Day and The Heat Pump Show - the trade show industry first for sustainable heating technology. And it's not like other trade shows: No more lukewarm coffee, hungry-looking sales associates, 7000 tote bags, and a keynote talk that should have been an email. And no more having to navigate miles of stalls with everything but the brand rep you want to find.

The Heat Pump Show is exclusively designed for heating industry professionals: A proper show floor packed with the biggest names in renewable heating, allowing you to get hands-on with the latest kit, corner the manufacturers with your actual questions, and pick up leads while you're at it. Think of it as CPD, networking and a trade show rolled into one, but with an agenda that is actually worth reading.

Speaking of agendas

We have also got five hours of genuinely valuable content aimed squarely at installers, helping the people actually on the tools and across the table from sceptical homeowners to answer the difficult questions about renewable heating tech.

No padding, no waffle, just the stuff you actually need to know.

Dealing with concerns that sound something like "But I read that heat pumps are a scam!"?

"Total Bollocks"

Talks

Sorry, the formatting got messed up there: Join us for **"Total Bollocks"** (13:00-13:45), a talk about how to counter misinformation, handle customer objections, and avoid overselling while protecting your margins on heat pump installations. **Barry Sharp, Damon Blakemore, Graham Hendra, Leah Robson**, and **Rhiannon De Wreede** pile in on the myths, objections, and overclaiming that give heat pumps a bad name.

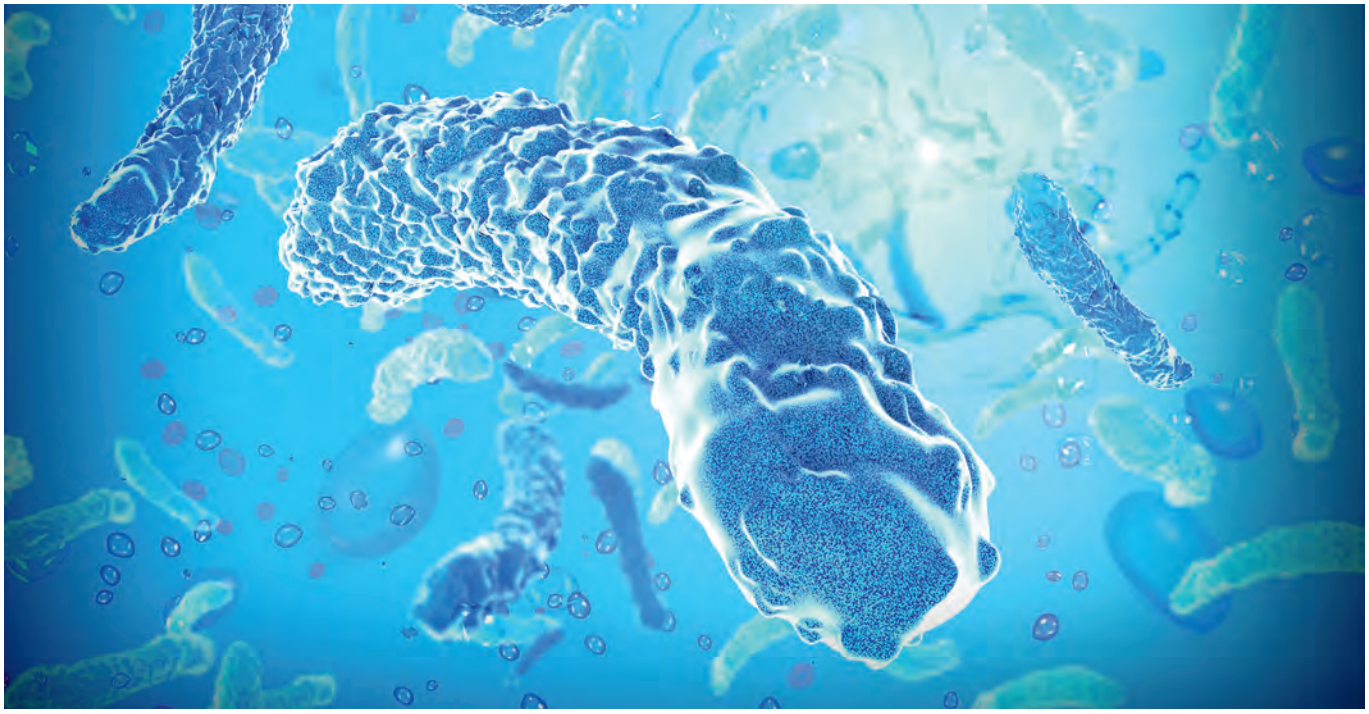
Curious about the potential of Air-to-Air heat pumps? **The A-Z of A2A** (10:45-11:30) offers a timely deep-dive into air-to-air heat pumps, just as they're being added to the Boiler Upgrade Scheme. Speakers from Samsung, Haier, BetaTeach, and MCS will get you up to speed for your customers and the new government funding availability.

Then it's **Upfront Costs vs Running Costs** (11:45-12:30), which is industry shorthand for: how do you have the money conversation without losing the job? Voices from Open Energy Monitor, British Gas, Nusku, Firepower, and Heatio tackle disruption, flow temperatures and electricity bills.

The day ends with **The Holy Trinity** (14:00-14:45): heat pumps, batteries, solar, and the tariff that ties it all together. Speakers from Midsummer, MCS, the University of Sheffield, Aventus Eco, and Heatio make the case for thinking beyond the heat pump itself - because the installers offering the full package are the ones customers keep calling back.

You'll be able to ask all the brand representatives exactly the questions you need to ask without having to chase and chase email chains, talk technical issues and fixes with industry experts, and come away with fully clued up on the latest happenings in the renewables heating space. It's an industry that moves fast, and let's be honest - the certification and government funding schemes aren't always the most straightforward things to navigate.

Our location:
Lady Eastwood Centre, Newark Showground, Newark NG24 2NY | 01275 266005
It is easy to reach by road or rail, and with a 10:00–15:00 finish, you'll still be home for tea.
Grab your **FREE** tickets at **theheatpumpshow.co.uk**.
P.S. Mother's Day 2027 is Sunday, 7th March.



Hygienic operation of heat pump domestic hot water systems: Managing Legionella risk in low-temperature installations

Dr. Peter Meža, Senior Product Manager at Hisense Europe, examines the link between low-temperature hot water systems and Legionella risk and outlines engineering solutions that ensure hygienic safety while maintaining high efficiency. It discusses design principles, control strategies, and smart thermal-disinfection methods, with particular focus on systems integrated with photovoltaic power.

Domestic hot water production accounts for a substantial share of energy consumption in residential and hospitality buildings. In recent years, heat pumps have increasingly replaced conventional gas boilers as part of broader decarbonization strategies in the European building sector. Their high efficiency, reduced greenhouse gas emissions, and compatibility with renewable electricity sources make them a key technology for sustainable building operation.

One of the advantages of heat pump systems is their ability to integrate with photovoltaic electricity generation. When PV production exceeds the building's instantaneous electricity demand, heat pumps can convert surplus electricity into thermal energy stored in domestic hot water tanks. This approach increases the self-consumption of renewable energy and reduces dependence on grid electricity.

Despite these advantages, the operating characteristics of heat pumps differ from those of conventional water heating systems. Heat pumps achieve their highest efficiency at moderate temperatures, which often leads to lower storage temperatures in DHW tanks. While this improves system performance, it may also create conditions that allow the growth of Legionella pneumophila, the bacterium responsible for Legionnaires' disease.

For this reason, hygienic design and appropriate operational control are essential for ensuring the safe operation of heat pump domestic hot water systems.

Dr. Peter Meža, Senior Product Manager at Hisense Europe

Legionella growth and temperature conditions

Legionella pneumophila is a naturally occurring bacterium found in freshwater environments. In artificial water systems such as building plumbing networks, it can multiply if environmental conditions are favorable. The primary mode of infection is inhalation of contaminated aerosols, for example from showers, faucets, or cooling systems.

Temperature plays a critical role in Legionella growth. The bacterium multiplies most rapidly in water temperatures between approximately 25 °C and 45 °C. Growth slows significantly above 50 °C, while temperatures above 60 °C led to rapid inactivation.

In many heat pump DHW systems, storage temperatures are typically maintained between 45 °C and 55 °C to maximize the coefficient of performance (COP). Although this range improves energy efficiency, it may overlap with conditions that allow bacterial survival.

Several additional system characteristics can increase the risk of Legionella proliferation:

- large storage volumes with extended water residence times,
- temperature stratification within storage tanks,
- insufficiently balanced circulation loops,
- sections of piping with stagnant or low-flow water,
- irregular heating patterns resulting from PV-driven operation.

These factors illustrate that Legionella risk is primarily related to hydraulic design and operational control, rather than to heat pump technology itself.

Hygienic design of domestic hot water installations

Proper hydraulic design is the foundation of hygienic domestic hot water installations. Systems should be designed to ensure continuous water movement and avoid stagnation zones where bacteria may multiply.

One important aspect is the elimination of dead legs, which are pipe sections with little or no water circulation. Such sections can create stagnant water volumes that support microbial growth. In practice, design guidelines recommend limiting stagnant volumes to less than approximately three liters.

Hydraulic balancing of circulation loops is equally important. Balanced systems maintain consistent temperatures throughout the distribution network, ensuring that hot water reaches all outlets at hygienically safe temperatures. Circulation pumps must therefore be correctly dimensioned and equipped with suitable control valves.

Material selection also contributes to maintaining hygienic conditions. Materials used in drinking water installations must comply with European and international standards and should not promote microbial growth. Commonly used materials include copper, stainless steel, and approved polymer materials such as polypropylene.

Thermal insulation of pipes is another critical design element. Proper insulation prevents excessive heat losses and helps maintain stable temperatures throughout the system. Hot water pipes should also be separated from cold water pipes to prevent unwanted heat transfer.

Finally, systems must be designed to allow effective maintenance and inspection. Access to key components such as storage tanks, circulation pumps, and temperature sensors is necessary to ensure long-term hygienic operation.

Thermal disinfection in heat pump systems

Even with well-designed hydraulic systems, periodic thermal disinfection remains one of the most reliable methods for controlling Legionella in domestic hot water installations.

Thermal disinfection involves raising the water temperature to levels that inactivate bacteria for a specified period. The required exposure time depends on the temperature achieved (Table 1). For example, water maintained at 60 °C requires only a short exposure time for effective disinfection, while lower temperatures require longer treatment periods.

Table 1. Recommended Thermal Disinfection Times

Disinfection temperature [°C]	Mininimum time
50	6 hours 20 minutes
55	0 hours 50 minutes
60	0 hours 14 minutes
65	0 hours 11 minutes
70	0 hours 6 minutes
75	0 hours 3 minutes

Many modern heat pump systems include a dedicated anti-Legionella or pasteurization cycle. During this cycle, the storage tank temperature is increased to 60–65 °C or higher for a defined duration.

For thermal disinfection to be effective, several conditions must be satisfied:

- the entire storage tank volume must reach the target temperature,
- circulation loops must also be heated to disinfecting temperatures,
- the exposure time must be sufficient to ensure bacterial inactivation,
- temperature profiles should be monitored and recorded.

In some systems, auxiliary electric heaters are used to support high-temperature cycles. Although this temporarily reduces system efficiency, such cycles are typically performed only periodically and therefore have a limited impact on overall energy consumption.

Digital monitoring and smart control

Advances in digital control technologies have significantly improved the management of domestic hot water systems. Modern controllers can monitor temperature conditions throughout the installation and automatically verify whether disinfection cycles have been successfully completed.

Data logging allows facility managers to analyze temperature trends and identify potential operational problems. Monitoring platforms can track parameters such as minimum and maximum loop temperatures, disinfection cycle frequency, and flow irregularities.

Smart monitoring systems also enable predictive maintenance. By detecting unusual patterns in temperature or circulation performance, the system can identify issues such as pump malfunction, sensor drift, or incomplete disinfection cycles before they develop into serious hygiene risks.

Integration with building management systems (BMS) further enhances operational transparency. In larger buildings such as hotels or apartment complexes, centralized monitoring allows operators to supervise multiple systems and ensure compliance with hygiene requirements.

Interaction between PV Systems and DHW Operation

The integration of heat pumps with photovoltaic systems introduces new opportunities for improving energy efficiency. During periods of high solar electricity production, heat pumps can convert surplus electricity into thermal energy stored in domestic hot water tanks.

However, PV-driven operation may also introduce irregular heating patterns. If hot water production is concentrated primarily during midday hours, storage tanks may remain at moderate temperatures for longer periods. This brings energy savings, but can also introduce several disadvantages, which can be mitigated by the actions shown in Table 2.

Table 2: Disadvantages of PV coupled heat pumps and solutions

Disadvantages	Solutions
• Longer periods of low temperature storage • Irregular heating patterns • Reduced nighttime circulation temperatures	• PV optimized disinfection cycles • Dynamic setpoints based on solar forecasts • Hybrid systems combining heat pumps with electric immersion heaters • Thermal storage strategies that maintain hygiene without sacrificing efficiency

Without proper control strategies, this operating mode could increase the time during which water remains within the bacterial growth range.

Several technical measures can mitigate this risk:

- scheduling thermal disinfection cycles during periods of solar surplus,
- dynamically adjusting temperature setpoints based on solar production forecasts,
- combining heat pumps with auxiliary electric heaters for high-temperature cycles,
- implementing control algorithms that balance energy efficiency with hygienic safety.

Through these strategies, PV integration can improve overall system performance while maintaining hygienic operating conditions.

Conclusion

Heat pumps are becoming a central technology for sustainable domestic hot water production in modern buildings. Their high efficiency and compatibility with renewable electricity make them an essential component of low-carbon energy systems.

At the same time, the safe operation of heat pump DHW systems requires careful attention to water hygiene. Legionella growth is primarily influenced by hydraulic design, temperature management, and operational control rather than by the heating technology itself.

By combining proper system design, elimination of stagnation zones, appropriate material selection, and periodic thermal disinfection, it is possible to maintain hygienically safe domestic hot water systems without compromising energy efficiency.

The integration of digital monitoring technologies and photovoltaic electricity generation further enhances the ability to manage both energy performance and hygienic safety in modern buildings.

www.hisense-europe.com

Source

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WOMEN IN THE HEAT PUMP INDUSTRY

Stevie Mardy, Key Account Manager – A2W (Social Housing), Panasonic Heating and Cooling Solutions Europe, shares with us her journey from becoming the youngest female Branch Manager in a car rental business to her current role which is incredibly varied, highlighting the resilience and ambition that shape her career.

My first "grown-up" job was in car rental, where I worked my way up through the ranks to become the youngest female Branch Manager at the time. I've always been fiercely ambitious, and that role gave me invaluable experience in leadership, responsibility and working with people.

My career path shifted when I found out I was pregnant with rare type of identical twins, (Monochorionic/Monoamniotic or MCMC) which are extremely high-risk in terms of complications, and at that point my priority had to be our health and wellbeing. While it required a pivot, it also strengthened my resilience and adaptability – qualities that have continued to shape my approach to my career ever since.

Early career in HVAC

Like many people in the sector, I didn't set out with a clear plan to work in heat pumps – I very much fell into the industry. My early career in HVAC focused more on air conditioning, but that changed when I saw the opportunity to work at Panasonic and as a result began working more closely with air to water heat pump technology.

It was there that I really started to see the difference heat pumps can make, not just technically, but in terms of people's lives and the wider push towards a decarbonised society.

A varied role: Delivering installer training and support to resident engagement

Through initiatives such as the Future Homes Standard, I get to see first-hand the positive impact this transition has on communities. Having the opportunity to engage directly with residents and stakeholders, and to help them understand how these changes benefit them both now and in the long term, is one of the most rewarding parts of my role.

My current role is incredibly varied, which is something I really enjoy. A large part of my work involves supporting housing associations and local authorities as they transition their housing stock from gas boilers to air source heat pumps (ASHPs). That support spans the entire journey – from early engagement through to post-installation.

I work closely with teams to provide training, helping them understand not only how the systems operate, but also how residents can use their heat pumps effectively. This includes basic fault-finding and maintenance guidance to ensure systems are running as efficiently as possible.

Resident engagement is a key focus for me, whether that's through pre-installation sessions to explain how ASHPs differ from traditional gas boilers, or post-installation events designed to build confidence and maximise performance while understanding the best way to use their heat pump to suit their lifestyle.

Alongside this, I also spend time supporting installers working within social housing, helping to minimise disruption for residents wherever possible. Providing pre-start meetings as well as technical advice on designs and what to be mindful of during first fix on site. Ultimately, my role sits at the intersection of technology, people and education – making sure everyone involved feels informed, supported and confident.

Stevie Mardy, Key Account Manager – A2W (Social Housing), Panasonic Heating and Cooling Solutions Europe

What do you see as the challenges facing the industry?

We have recently had issues with the standard of installs as an industry across the ECO4 sector, I am extremely pleased the new Warm Homes grant will have Kitemark standard inspections to ensure a level of quality to protect all parties.

One of the main challenges facing the industry is the level of work required to ensure fabric-first upgrades are completed during retrofit projects, so that heat pumps are the right and most effective solution for each property.

There are also ongoing challenges around infrastructure, particularly with Distribution Network Operators and the number of substation upgrades required. As we move quickly towards an electrified future, it's essential that the infrastructure keeps pace with demand.

Pre-start site training: A review of the installation guidance for the Panasonic Aquarea range, including responses to any questions from installers

That said, we are doing everything we can to assist in the move towards the future. Panasonic's Aquarea J Series in 5, 7 and 9kW are pre-approved for Connect & Notify, this is a great example of how barriers can be reduced and processes streamlined. We also supply a significant amount of data for those housing associations lobbying the government to improve these processes.

Who have been your inspirations?

I was honoured to be involved in the STEMazing inspiration academy, which was founded by **Alex Knight** MBE CEng FIMechE. Her commitment to inclusion for those in STEM careers is quite literally award winning. Along with working to inspire young people into these careers via the STEM sessions she shares within the academy, increasing her reach by empowering women in STEM careers to share these sessions in local schools.

I've been fortunate to work alongside and learn from some incredible women throughout my career. Within the HVAC industry, **Harriet Evans** — previously at MHI and now with Qvantum — had a huge influence on me. She showed me the importance of remaining passionate and continuing to push for change, reinforcing the idea that with strong beliefs and determination, we really can shape the future of the industry.

Jenny Dean also played a pivotal mentoring role, encouraging me to enhance my career, step up with confidence, and recognise the importance of being a visible female role model within the sector.

Since joining Panasonic, **Charley Sawyer** in particular has had a profoundly positive impact on my working life. Her unwavering dedication and commitment to what we're trying to achieve is genuinely inspiring and continues to motivate me every day.

A message to other women who are considering stepping into the heat pump industry

I'd say throw away any preconceived ideas about this being a "male-dominated" industry. It's an incredibly welcoming space, full of passionate people who are all working towards a shared goal. There are so many opportunities to make a real difference, and you can absolutely achieve whatever you set your mind to.

It's an exciting, fast-moving industry to be part of, and if the opportunity comes your way, I'd encourage you to take it. You'll be supported, valued, and very much welcomed.

Stevie and her twins on sports day

Beyond my workplace

Outside of work, life is busy in the best possible way. I have eight-year-old twin boys who keep me constantly on my toes. When I do get a bit of downtime, I love socialising — whether that's dancing the night away, enjoying a long walk around a lake with the boys scooting ahead, or catching up with friends over brunch.

I've also been strength training for the past couple of years. I tell everyone it's for my health... but really, it's so I can keep picking the boys up even when they're bigger than me!

(L-R) Stevie Mardy and Charley Sawyer, UK National Manager of Merchant Groups at the Installer show

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If you have any queries regarding entering please contact victoria.liddington@warnersgroup.co.uk

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Efficient heating for a new build bungalow in Glenavy

A 140m² bungalow in Glenavy uses a 9kW air source heat pump and 240L cylinder to deliver efficient heating and reliable hot water.

A recently completed new-build bungalow in Glenavy required a heating system capable of delivering both efficiency and comfort. With a floor area of 140m² and underfloor heating installed throughout, the property needed a solution that could provide consistent low-temperature heat while also supplying reliable domestic hot water for a high-volume shower.

Installer **Connor** from KPH Renewables submitted the project plans to Warmflow using the company's free specification service. Following assessment of the property's heating demand, a Warmflow Zeno R290 9kW Air Source Heat Pump (AS01) was specified. This model was selected to specifically match the heating requirements of the 140m² bungalow, ensuring the system could operate efficiently while maintaining comfortable indoor temperatures all year round.

To meet the home's hot water needs, the system was paired with a Warmflow Nero 240ltr Heat Pump Cylinder. The larger-capacity cylinder was chosen to ensure a consistent supply of hot water, particularly important given the installation of a large-volume shower. Combined with the heat pump, the cylinder forms a balanced system designed to deliver dependable heating and hot water performance across the whole property.

The use of underfloor heating throughout the bungalow makes it an ideal candidate for a heat pump installation. Systems of this type operate most efficiently at lower flow temperatures, allowing the Zeno R290 AS01 to work effectively with the underfloor pipework to provide steady, even heat throughout the home.

For Connor, choosing Warmflow was an easy decision. As a local manufacturer they provide the advantage of accessible support and technical back up whenever required. The system also incorporates their link technology, enabling installers to monitor multiple heat pumps remotely through the app, simplifying commissioning and ongoing system management.

Connor also highlighted the completeness of the installation kit as a key benefit. "It has everything I need," he noted. Designed with installers in mind, saving time on site and reduce time spent sourcing additional parts.

The completed system delivers a modern, low-carbon heating solution tailored to the exact needs of the property.

This Glenavy installation demonstrates how the selected air source heat pump technology can provide an efficient, practical heating solution for modern new-build properties, while offering installers the reliability, support and ease of installation.

https://warmflow.co.uk/

Qvantum's exhaust air heat pumps fit the bill in new-build development

Qvantum's QE exhaust air heat pumps are delivering low-carbon comfort for 76 new-build apartments at The Roundway in Tottenham, North London.

Qvantum's QE exhaust air heat pumps are delivering low-carbon comfort for the apartments at The Roundway in Tottenham, North London

The individual QE systems, designed in conjunction with **Nick Yankovec** of NLY Building Services, are providing energy-efficient heating, hot water and ventilation for the mix of two and three-bedroom apartments without the need for a central plant room.

The QE recovers energy from extracted air while the inverter control automatically adjusts to the comfort demands of the home, thus minimising energy consumption. By using heat from the integrated thermal store, instantaneous hot water production ensures compliance with the industry standard and effectively eliminates the risk of legionella.

Meanwhile, the compact design of the units adds a further benefit for residents, with installation in standard appliance cupboards saving valuable internal space.

Bal Padda, Sales Manager at Qvantum UK, said: "Our QE series is the perfect choice for urban living, where space is at a premium and efficiency demands are high. Choosing our sustainable technology also means the properties are ready for smart grid integration."

Owned by Haringey Council, The Roundhouse achieved an EPC rating of A, through innovative renewable features including solar PV. The QE was chosen to complement these measures based on value for money and efficiency when compared with alternatives such as electric panel heaters. The thermal store allows access to electricity when it is cheap, green and plentiful, resulting in genuine peak price shaving for both hot water and heating.

The QE also helps the building meet Part F (ventilation), Part O (overheating) and Part L (energy efficiency) of the Building Regulations.

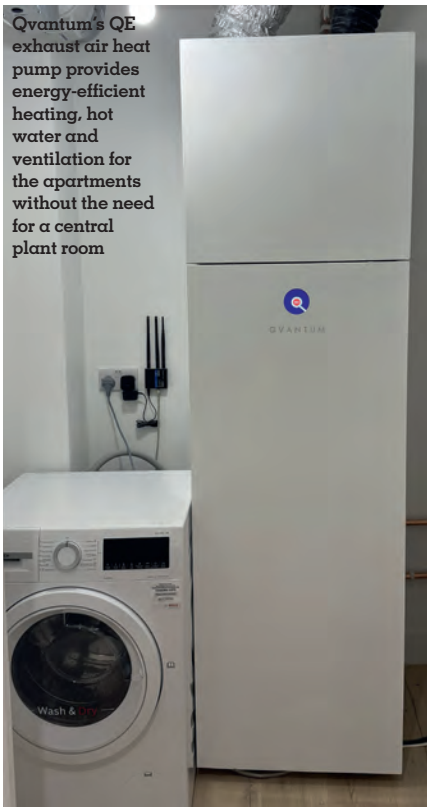
A smaller footprint offers installation and operational savings, while Qvantum's built-in open API connectivity allows remote performance monitoring and supports future integration with energy networks and smart tariff control.

Nick said: "One of the major reasons we went down this route is the billing and metering; compared to a communal heating scheme, this option provides a much more cost-affordable solution for the tenant, as there is no third-party heat metering company involved, the power is directly from the electricity provider. This significantly reduces costs."

The seamless connectivity and simplified setup of the QE units allowed Qvantum to complete commissioning within two days.

Niko Dodaj, of contractor MD Constructions, added: "The technical support from the Qvantum team paved the way for a trouble-free project, with full commissioning and monitoring since installation."

www.qvantum.com/uk/



Qvantum's QE exhaust air heat pump provides energy-efficient heating, hot water and ventilation for the apartments without the need for a central plant room

Cambridge University College paves the way for a sustainable future

Nine Vaillant heat pumps transform student accommodation heating.

To support the sustainability objectives of a postgraduate college, heating manufacturer, Vaillant has collaborated with Darwin College at Cambridge University to help transition its heating and hot water supply from gas boilers to low carbon heat pumps at one of its student accommodation blocks.

The building itself comprises three floors, nine kitchens, en-suite 24 showering facilities and 54 student rooms - each one with its own basin. So, the new solution, which replaced the older gas boilers, had to be able to supply reliable heat and hot water volumes to meet the needs of a busy living space.

The college's facility managers worked alongside Vaillant's System Sales and Design team to develop an effective solution that would ensure sufficient heating and hot water supply to nine flats across three floors, as well as support and deliver on a sustainable future.

Specification

A total of nine Vaillant heat pumps were installed, compromising of six monobloc air source heat pumps and three split air source heat pumps.

The use of a mixed specification for the air source heat pumps is quite unconventional but serves a specific purpose. The split air source heat pumps, featuring an external unit connected to an internal hydrobloc, were chosen to minimise heat loss during transfer across the three floors of the housing block. Meanwhile, the monobloc units are ideal for locations where pipework needs to be kept to a minimum.

Innovative installation

As Gwen Raverat House was occupied throughout the installation period, great care was taken to ensure minimal disruption to the students living there. A rolling work programme undertook installation flat by flat, with the affected occupier moved to an alternative living space as the work was carried out, which also saw all radiators resized as required.

Vaillant also helped provide educational resources on the new heating system to the students. Providing information for each occupant so that they could understand how the heat pumps worked.

The overall system is centrally controlled via nine Vaillant VR92 interfaces that feedback into a central system to maintain an ambient temperature throughout the building and ensure the hot water supply is consistent and reliable all year round.

Steve Cipriano, Commercial Director UK and Ireland: from Vaillant says: "The upgrade to the block housing Darwin College students has been an important retrofit project. Alongside general improvements to the fabric of the building, the university has invested in a proven and sustainable heating and hot water system that helps to further future proof the building, drive energy efficiency and lower its carbon footprint.

"Working with the college team, we have been able to specify an excellent heating solution that considered and met all of our design and location challenges. We also took great care to minimise any impact on the students through the installation phase as critical element of the overall project."

Gary Reynolds, Projects & Buildings Manager for Darwin College, Cambridge University, comments: "We are delighted with the completed scheme that has seen the transformation of the heating and hot water needs at Gwen Raverat House, utilising low carbon technology with Vaillant's impressive heat pump solutions.

"As we undertake retrofit upgrading schemes such as this, we are helping to improve the energy performance and impact of the buildings we rely upon and lay the foundations for sustainable, low carbon energy use in the future."

www.professional.vaillant.co.uk/for-installers/products/renewable-systems/air-source-heat-pumps

ADVERTORIAL

STIEBEL ELTRON launches innovative internal air source unit with integral MHVR

STIEBEL ELTRON have launched the LWZ 07.1 Premium HKL 230 as part of their hpnext generation of heat pumps which also includes new monobloc air source and ground source units.

Billed as a "plant room in a box" the new MCS approved unit offers heating, cooling, ventilation and air purification out of the box, whilst taking up minimal floorspace.

Hot water provision just requires the addition of your choice of hot water cylinder to match your project, allowing for maximum comfort and space and energy efficiency.

Cooling comes as standard through the emitter system (underfloor and fan coils) but also via. the MVHR with the addition of an accessory fitted neatly to the top of casing, so that no additional footprint is required in your plant room (see image).

Behind the elegant casing of the LWZ lies the latest technology for top-class efficiency. Heat in the extract air (that is usually wasted in standard MVHR systems) is used to increase efficiency of the Heat Pump, defrosting processes are minimized and energy requirements are reduced to an absolute minimum. A preheat of the fresh air using a byproduct of energy from the Heat Pump system further elevates the efficiency of the ventilation system.

As well as integration of Solar PV/ Thermal systems the LWZ is compatible with energy management systems for photovoltaic integration to increase efficiencies even further.

Installers will be glad of the flexible installation options (right or left-handed) and the quick installation of the outside and exhaust air ducts using hose sets with adapter plates.

The LWZ 07.1 offers a heat output at A-7/ W35 (EN 14511) of 6.42 kW and cooling capacity at A35/W7 of 2.69 kW. It can achieve heat recovery up to 92% and supply an air/exhaust air volume flow of 80-300 m^3/h. At a sound power level (EN 12102) of 50 dB(A) it delivers whisper-quiet operation and the advantage of no outdoor equipment being needed.

For more information on the full hpnext range visit: **https:www.stiebel-eltron.co.uk/hpnextlaunch**

Sustainability commitments at Ballyliffin Lodge and Spa

Situated in one of the most scenic locations in all of Ireland, the team at Ballyliffin Lodge take great care to look after their local area and adopt green solutions wherever possible.

Ireland's most northerly four-star hotel, the Ballyliffin Lodge and Spa (Ballyliffin Lodge) is nestled on Donegal's Inishowen Peninsula, offering panoramic views over Malin Head. Its spectacular setting highlights the hotel's dedication to preserving the area's natural beauty, as further evidenced by its use of green technologies to heat, water and power its 40 rooms, spa, gym and restaurant.

Steps taken to achieve this aim include installing a large 288kW solar array to the rear of the hotel and commissioning a natural spring well to reduce water usage and mains consumption. Yet one of Ballyliffin Lodge's most ambitious projects involved upgrading its heating system to include a 500kW, biomass boiler, burning woodchips to supply its heating and hot water needs.

Reducing carbon, reducing costs

Supported by a €450,000 investment and grants from the Sustainable Energy Authority of Ireland's Support Scheme for Renewable Heat, this project is crucial to the hotel's goals of adopting greener practices and reducing operating costs. With Ireland's carbon tax set to rise annually from €56 per tonne of CO2 at present, to €100 per tonne by 2030, installing a boiler that would save up to 250 tonnes of carbon dioxide annually made clear commercial sense for the hotel.

"We're in an area of stunning natural beauty and protecting and maintaining that is very important," says **Ron Kerrigan**, Hotel General Manager for Ballyliffin Lodge and Spa.

"It's very cost-effective to carry out these sorts of initiatives, and the installation of this boiler would improve the hotel's efficiency throughout.

"People not in the know would think 'oh, you're cutting down trees, you're cutting down forests, how does that work?' But it's a renewable source of heat and energy, and the trees go through an eight-year life cycle, so as quick as we're cutting them, we're also planting them, preserving and maintaining the local area's greenery."

Making molehills out of mountains

To carry out this project, Ballyliffin Lodge engaged the services of CHP Mechanical Services Ltd, a County Down-based renewable energy and commercial heating installer specialising in Biomass boiler installations including off-site prefabricated plant rooms. The need to preserve the peninsula's pristine environment meant this expertise was a priority, as the existing building proposed to house the boiler was situated a kilometre away from the hotel – in this case, on the side of a nearby mountain.

Faced with this challenge, the team at CHP Mechanical Services Ltd specified a Herz Firematic 499kw Biomass Boiler with a 50m^3 adjoining space within the building from which woodchips are transferred via a spring agitator and screw conveyor. In order to efficiently transfer heat from the plant room to Ballyliffin Lodge's buildings without disrupting the local landscape, CHP Mechanical Services Ltd needed suitable underground pre-insulated pipework that could offer excellent thermal performance.

The distance from the hotel presented other logistical concerns. With no roads going up the side of the mountain to the biomass boiler plant room, and very few in the local area at all, the specified pipework needed to be lightweight and flexible. As the hotel's operations could not be interrupted, a final requirement for the pipework was speed of installation to ensure there wasn't any downtime.

Enduring supply chain relationships

"The nature of Ballyliffin Lodge's business and location presented clear challenges for this particular project," says **John Smyth**, Managing Director of CHP Mechanical Services Ltd. "After all, if you can't transfer its heat effectively through its pipes, it doesn't matter how effective and sustainable your boiler is.

"We've been installing this kind of system for over 13 years, so we know the importance of only working with proven, reliable manufacturers for all components. This includes pipework, which is extremely important on projects of this kind. We've had a long and solid relationship with REHAU, using its PE-Xa pipe, RAUTHERMEX, to connect offsite plantrooms to buildings. The team is very familiar with this pipe system and have always been impressed with its reliability, thermal performance and how easy it is to install."

REHAU's RAUTHERMEX bonded pipe system consists of a polyurethane foam insulation core and a corrugated outer jacket that keeps operational heat losses particularly low. Its fine-pored PU foam, developed using specialist process technology, offers high thermal insulation, making it ideal for linking Ballyliffin Lodge's buildings to the boiler plantroom a kilometre away.

Making a connection

Alongside its thermal performance benefits, RAUTHERMEX's unique connection technology, EVERLOC, offered a level of ease of installation and reliability for CHP Mechanical Services Ltd. It uses a compression sleeve to create a permanently leak-tight connection between the pipe and the fitting, with no O-rings or other sealants, producing an independently certified cavity-free joint. As the pipe itself is the sealant, the installation is immediately ready for pressure and a simple visual inspection is sufficient to know if the connection is complete.

For projects such as Ballyliffin Lodge where swift installation over long distances of pipework is key, this ability to quickly and comprehensively fit and inspect a flexible pipe system is invaluable. Having worked with REHAU systems for around 13 years CHP Mechanical Services Ltd are very familiar with the complete REHAU system.

"Being able to quickly procure, transport and fit pipework is imperative for this sort of project," says John. "The hotel was keen to avoid downtime, so the fact REHAU was able to provide the swift support and high-quality products we've come to expect was highly appreciated.

"To solve issues around the lack of roads, we actually constructed a bespoke de-coiling machine to lay down the one kilometre of RAUTHERMEX required. It proved highly successful, largely due to the flexibility of the pipe systems, and it is certainly something we will consider using again."

Empowering businesses to go green

With these complex logistics in mind, **Mark Thompson**, Area Sales Manager for REHAU Building Solutions Northern Ireland & Republic of Ireland, was also on hand to ensure the project's smooth running. With the boiler now installed and running, the success of Ballyliffin Lodge's uniquely complex works has resulted in further enquiries from other hotels in Ireland.

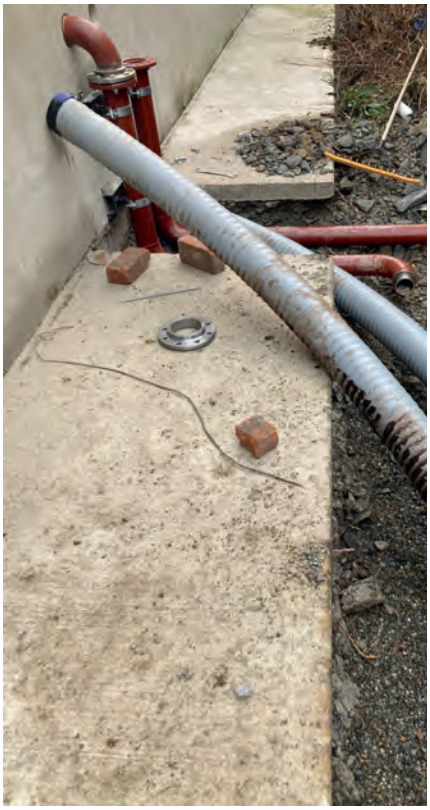
Moreover, testament to the success of both this installation and that of the other green upgrades implemented is the fact that Ballyliffin Lodge was shortlisted as a finalist for the 2024 edition of the Sustainable Energy Authority of Ireland's Energy Awards .

"The rising carbon tax is definitely focusing minds for businesses such as hotels," he explains.

"As the works at Ballyliffin Lodge show, transitioning to greener heating systems is a sensible commercial decision.

"The CHP Mechanical Services Ltd team have clearly demonstrated what an excellent installation looks like in this field. Using our leading RAUTHERMEX components, their expertise clearly demonstrates what's possible even in remote areas such as the Inishowen Peninsula. We advise similarly situated businesses to explore environmentally sympathetic boilers and offsite plantrooms, especially in national markets accelerating their decarbonisation efforts."

www.ballyliffinlodge.com/sustainability
www.chpmechanical.ie
https://bs.rehau.com/uk-en/solutions-for-building-technology



Broughton Sanctuary

Broughton Sanctuary in Yorkshire uses ground source heat pumps (GSHPs) to provide low-carbon, sustainable stays in historic properties.

Located near Skipton in Yorkshire, Broughton Sanctuary is much more than a luxury retreat destination. This ambitious 1,030-hectare estate represents a unique commitment to restoring nature and leading the way in showing how humans can live harmoniously within the environment.

The sanctuary is transforming high-intensity sheep pasture into a mixture of different habitats that coexist and work together, not only to produce food but to help nature recover. Through regenerative farming practices and dedicated rewilding areas, Broughton Sanctuary is working to restore natural processes and balance the ecosystem.

For guests, this nature recovery programme provides an immersive experience in sustainable travel and retreats in nature, offering extended stays in thoughtfully renovated holiday homes where modern eco-friendly technology integrates seamlessly with the estate's historic character.

The challenge

When estate owner **Roger Tempest** embarked on renovating the sanctuary's holiday properties, he faced a unique set of challenges. Roger, a sustainable pioneer committed to achieving net-zero operations, needed a heating solution that aligned with Broughton Sanctuary's ethical values and environmental mission.

The primary obstacles included:

- **Historic building constraints**: The age and architectural significance of the buildings required careful preservation during renovation
- **Extensive renovation scope**: Some properties needed to be stripped back to bare brick and renovated from scratch
- **Scale and complexity**: Multiple properties across the large estate, each with different heating requirements
- **Sustainable travel expectations**: Guests choosing Broughton Sanctuary expect genuine commitment to environmental stewardship
- **Ambitious sustainability goals:** Moving away from the existing biomass (wood pellet) heating in the main hall towards comprehensive renewable heating solutions.

A building at the Luxury retreat

The solution

In 2024, Go Geothermal was contacted by Broughton Sanctury focused on making properties more energy efficient. The brief was to deliver comprehensive ground source heat pump (GSHPs) systems that would serve multiple properties across this extensive estate.

Go Geothermal supplied complete heating solutions from the ground up, including:

- Ground loop systems installed beneath the estate
- Plant room technology and controls
- CTC EcoPart heat pumps in various sizes to suit different properties
- CTC EcoZenith i555pro system for a substantial 7-bedroom, 7-bathroom property
- Integration with underfloor heating and radiator systems throughout the renovated accommodations

The project scope covered eight systems across eight different properties, with work ongoing as additional buildings are brought into the renovation programme. This includes plans for the on-site spa, Eden, and future ambitions to replace the biomass heating in the main hall with heat pump technology.

The results

Broughton Sanctuary now offers guests a truly sustainable holiday experience, where the comfort of modern heating technology operates in harmony with the estate's nature recovery mission. The GSHP systems provide:

- Highly efficient, renewable heating with minimal carbon footprint
- Reliable comfort heating for extended guest stays

- Seamless integration with the historic character of renovated properties
- Operational alignment with the sanctuary's ethical and sustainable values
- A foundation for achieving Roger's net-zero ambitions.

Roger, Custodian of Broughton Sanctuary said: "At Broughton Sanctuary we are clearing non renewables like oil out of our system, we're increasing biodiversity and protecting and enhancing nature. It's hard to imagine a future where new businesses aren't operating with sustainability in mind."

The ongoing partnership between Go Geothermal and Broughton Sanctuary demonstrates how renewable heating technology can support ambitious conservation and sustainability goals, even in challenging historic properties. As the project continues to expand across the estate, it stands as a model for how leisure and hospitality venues can authentically integrate environmental responsibility into their operations.

https://www.gogeothermal.co.uk

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