ISSUE 26

MAY 2025

HEAT PUMPS TODAY

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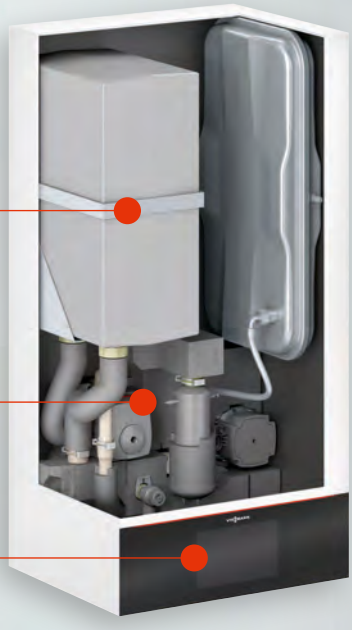

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Welcome to the May issue of Heat Pumps Today

Back in April, I attended the annual Ground Source Heat Pump event; Heat Pumps – Our Future, and was very encouraged about the continued enthusiasm for the sector. This issue revisits that day and provides a selection of case studies and in-depth information on the technology supporting some of these incredible installations.

More encouraging news, was the announcement on the Boiler Upgrade Scheme (BUS) made earlier this month. Gav Murray, Hive Heating Director at Centrica explains how BUS is making the eco-switch even more affordable – turn to page 22 for the full story.

On the 15th of May, the Heat Pumps Today team host the ACR & Heat Pumps Regional Expo at Aston Villa Football Ground, Birmingham. Locally based contactors/installers/specifiers/end users are invited to attend on the day free of charge. They will also have the opportunity to attend two free technical briefings.

Don't worry if you missed out, as we'll be back at Elland Road Leeds on the 25th September.

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 Loiselle FinstR
Editor/Publisher

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

(L-R) Joe Dunn, John Forkin, Henrik Hansen, Catherine Atkinson MP and Nadine Peatfield

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

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

The purpose-built facility could see around 200 jobs created for the area in the coming years as the heat pump market continues to grow. Some of the current employees have moved from the Belper manufacturing plant to leverage the existing quality culture and skills in place across the business, and exciting new roles have also been created for those wanting to upskill and join the industry.

The manufacturing plant in Derby spans 12,200m2 and includes manufacturing and warehousing space. It has been designed to incorporate sustainable features to ensure it is efficient to run in line with BREEAM Sustainable Building Certifications, including rainwater harvesting, heat pump technology and energy efficient lighting.

To read the story in full visit:
www.vaillant.co.uk

Ideal Heating brings training north of the border with new Scottish facility

(L-R) Ideal Heating's Managing Director (Domestic) Mark Derbyshire with Nicola McLeod, Managing Director (Scotland Division) at Warmworks, Jamie Macleod, Team Lead at Warmer Homes Scotland and Alice Somerville, Contract Delivery Officer at Scottish Government

The facility in Dalgety Bay, near Edinburgh, will provide installers in Scotland with easy access to industry courses delivered by Ideal's Expert Academy training arm.

Alongside the Academy's range of boiler courses, the centre will play a critical role in reskilling installers to work with heat pumps and other low-carbon heating solutions. The Dalgety Bay facility represents an investment of £250,000 from Ideal Heating, in the refit of the building and in updated equipment.

With capacity to train up to 2,000 installers every year, the new training facility is strategically located to be easily accessible to installers across central Scotland, with Glasgow, Dundee and Perth all within a 50-mile radius.

Installers undertaking training at the centre can benefit from the latest rigs and simulators, gaining hands-on, practical experience of working with Ideal's range of heat pumps and boilers.

www.expert-academy.co.uk/w/venues/5-dalgety-bay

STIEBEL ELTRON UK appoints new Managing Director

John Felgate, Managing Director (MD) for the UK and Ireland at STIEBEL ELTRON UK

STIEBEL ELTRON, announced the appointment of **John Felgate** as its new Managing Director (MD) for the UK and Ireland.

John takes over from the departing **Mark McManus**, who leaves the organisation this week, having spent 17 years with the company, with John taking up the role on 1 May 2025.

With over 25 years of experience in building services manufacturing, John has an impressive reputation as a commercial and technical expert in the industry, and has been instrumental in growing the businesses presence in the county's renewable heating market.

John, who previously served as Head of Technical, worked closely with Mark to see STIEBEL ELTRON UK experience significant growth, expand its product portfolio, and become a driver of the UK's transition to low-carbon heating solutions.

To read the story in full visit:
https://tinyurl.com/3yfzky6h

2025 a record-breaking start to the year for small-scale renewables

Ian Rippin, CEO at MCS, comments: "The latest data from the MCS Data Dashboard shows that March was the best month of 2025 so far, totaling more than 31,000 certified installations – up 49% from March 2024.

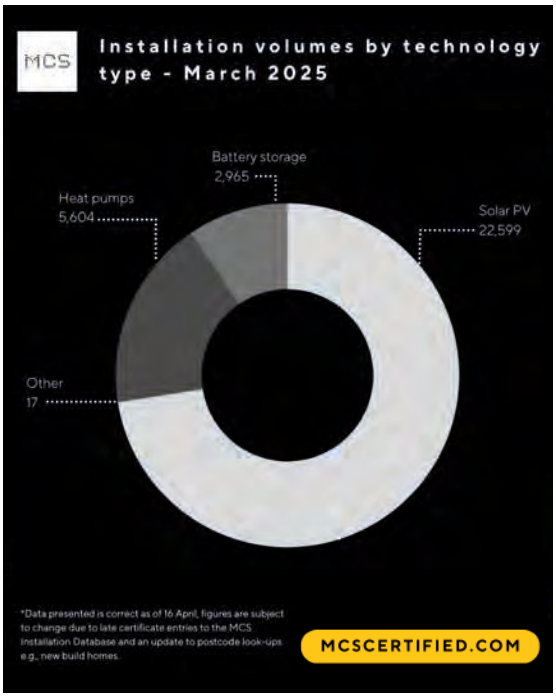
"Heat pump uptake continues to rise, with 5,604 certified installations – a 22% increase on March of last year - as more homeowners transition to low-carbon heating, driven by initiatives such as the Boiler Upgrade Scheme (BUS).

"Solar PV also had a strong month, with a total of 22,599 installations in March. This was a 49% increase on March 2024 and an 18% increase on last month. This means that there are now over 1.7 million MCS certified solar PV installations.

"March was another record-breaking month for battery storage, with almost 3,000 certified installations, beating the previous record set in February and a 147% increase on March 2024. This brings the total battery storage installations to over 33,000.

"It's great to see that the number of people adopting low-carbon alternatives is continuing to grow month on month, a positive step towards helping the UK achieve its net zero targets. With this growth, it is crucial to focus on 'delivered quality' to ensure consumers have growing confidence when investing in home-grown energy. This is what the redeveloped MCS will achieve, putting consumer protection at the heart of what we do."

https://mcscertified.com



Milestone year for Pump House as it celebrates 25 years of service

From humble beginnings in Nottingham to becoming a key player in the global HVACR and renewables market, Pump House – now part of DiversiTech International – is celebrating a significant milestone in 2025 as it marks 25 years in business.

It all started in May 2000 with a simple but ambitious idea: to build a better condensate pump distribution company. Founders **Craig Peebles** and **Paul Ludlow**, who had previously worked with Furse, recognised a gap in the market for specialist products and service-led support. What followed was the birth of CP Pumps, which later became known as Pump House, and the start of a journey marked by rapid growth, innovation and international expansion.

Pump House quickly moved into its first premises in Lilac Grove, Nottingham, with Craig taking on the role of Managing Director. A small but dedicated founding team was established, several of whom – including **Claire Gretton** and **Nicola Buckley** – are still part of the business today. Over the next two decades, the company would go on to become a well-known and respected name across the HVACR industry.

In 2016, Pump House was acquired by the DiversiTech Group, North America's largest manufacturer of equipment pads and a major global supplier of HVACR components. The acquisition added greater resources and reach, helping to strengthen Pump House's position in both domestic and export markets. By 2021, the business formally adopted the name DiversiTech International, while retaining "Pump House" as its trading identity – a name still closely associated with quality and customer care.

Today, Pump House offers over 2,200 products and supplies customers in more than 40 countries. The business operates from a 30,000 sq ft warehouse in Nottingham, with a move to a new purpose-built facility planned for December 2025 to support future growth.

Shaun Gray, who stepped into the role of Managing Director in 2024 following the change in responsibility for **Dave Bass**, is now overseeing the next phase of the company's evolution. With a continued focus on best-in-class service, technical expertise and delivery performance, the team remains committed to supporting contractors and distributors across the HVACR and renewables sectors.

Celebrations for the 25-year anniversary will begin in May with an Employee Appreciation Day at Uttoxeter Racecourse, bringing together staff past and present for a night of hospitality and reflection on a quarter-century of achievement.

www.diversitech.com

The Publishers of Heat Pumps Today purchase Renewable Energy Installer & Specifier magazine

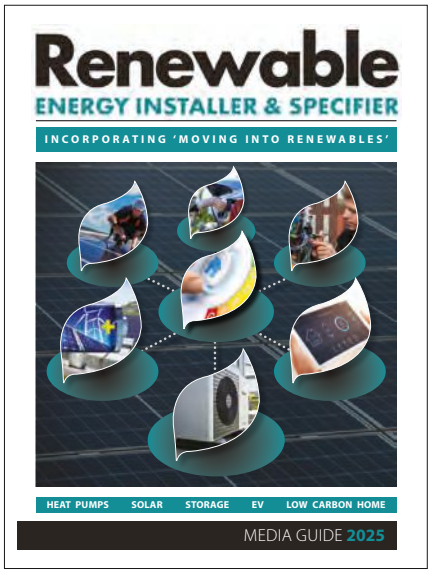
Ashley & Dumville Ltd is pleased to announce the sale of Renewable Energy Installer magazine to Warners Group Publications, publishers of Heat Pumps Today, organisers of the National ACR & Heat Pump Awards and other leading B2B brands within the energy and building services sectors.

The acquisition brings together two respected voices in the renewable energy space, creating a stronger platform to support and inform installers, specifiers and the wider industry during the UK's transition to low-carbon heating and power.

Renewable Energy Installer (REI) was launched in 2008, but its roots go back to 1989 when founder Nick Smith spent a rain-soaked volunteering weekend at the Centre for Alternative Technology. From those early encounters with solar PV and heat pumps, REI has grown to become the leading publication for the UK's microgeneration sector, championing initiatives like the Feed-in Tariff long before they entered the mainstream.

Today, it serves a loyal and growing audience across print, digital, newsletters and social media. The next available issue is June, and available bi-monthly thereafter. To keep informed on new technology, updates and initiatives pertaining to Solar, Storage, Heat Pumps and EV visit:
www.renewableenergyinstaller.co.uk

REI



Juliet Loiselle, Publisher/Editor at Warners Group, said: "We're delighted to welcome REI to the Warners portfolio. It's a great fit alongside Heat Pumps Today and aligns perfectly with our mission to support professionals across the renewable and sustainable energy sectors."

Nick Smith, Managing Director of Ashley & Dumville Ltd, added: "It's been a privilege to build REI over the years. We're proud of the role it's played in the industry and confident that Warners are the right team to take it forward."

For more information, please contact:
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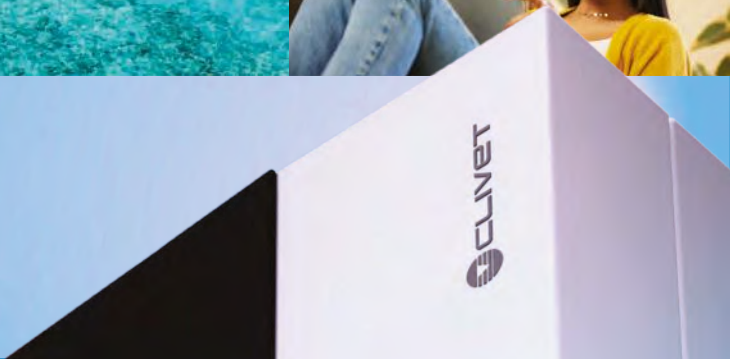

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Hydratech Products

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Heat Pumps – Our Future:

Industry innovation and insight take centre stage

On Thursday, 27 March 2025, **Juliet Loiselle**, Editor of Heat Pumps Today attended the Ground Source Heat Pump Associations event; Heat Pumps – Our Future, held at National Conference Centre (Motorcycle Museum), Solihull

The Ground Source Heat Pump Association (GSHPA) welcomed professionals from across the renewable energy sector to the National Conference Centre in Solihull for an inspiring day of knowledge-sharing, future-gazing, and community-building. The flagship event, "Heat Pumps – Our Future," brought together thought leaders, industry pioneers, innovators, and passionate advocates of sustainable heating. Set against the unique backdrop of the Motorcycle Museum, the venue buzzed with energy from the outset. Attendees were greeted with breakfast pastries and a warm welcome as they gathered for a packed agenda focused on the pressing topics shaping the future of heat pumps in the UK and beyond.

A marketplace of ideas – and innovation

In addition to the conference sessions, delegates had the opportunity to explore a lively marketplace area, where both GSHPA members and non-members showcased their latest products, technologies, and innovations. This interactive space became a focal point for informal learning, spontaneous collaboration, and a celebration of the creative spirit driving the sector forward.

From cutting-edge ground source technologies to smart monitoring systems, visitors could get hands-on with the tools and ideas shaping tomorrow's low-carbon solutions. The marketplace added a real buzz to the event, sparking conversations, connections, and even a few potential partnerships.

A conference programme full of insight and action

The programme was designed to foster collaboration and spark critical discussions across a range of hot topics:

- **Standards in the industry**
  Chaired by John Findlay, this session featured insights from Ken Gordon and

Laura Bishop, Chair of the GSHPA

  invited robust audience participation, underlining the importance of consistency and quality in the fast-growing sector.
- **Policy and regulation**
  A standout panel chaired by Chris Davidson featured presentations from Richard Warren (Kensa), Charlotte Lee (HPA), and Thomas Nowak (Qvantum), offering a deep dive into how evolving regulation is influencing real-world projects.
- **Electrification of heat**
  Moderated by Neil Lawson, this engaging session included passionate contributions from Leo Vincent (E3 Group), Ben Marks (Electrify Research Ltd), and Bean Beanland (HPF), who tackled both progress made and challenges ahead.
- **The untapped potential of mine workings**
  With Joanne Eynon and David Banks leading the conversation, this eye-opening session explored how abandoned mines could become unlikely heroes in our transition to cleaner heating.
- **Heat networks – Building resilient systems**
  Karen Spenley guided us through an informative exploration of the evolving role of heat networks, with expert contributions from Will McCarthy, Adrian Solla, and Helen Melone.
  The afternoon concluded with an open Q&A panel featuring industry experts like Emma Bohan and Louise Howlett, giving the audience a final chance to raise burning questions and share reflections from the day.

More than just a conference

What set this event apart was the atmosphere – one of shared purpose, curiosity, and optimism. Whether it was during lunch over a buffet of seasonal produce, or while networking with a cup of coffee in hand, attendees took full advantage of the opportunity to connect with peers, share experiences, and explore ideas.

As the event drew to a close, it was clear that "Heat Pumps – Our Future" was more than just a conference – it was a rallying call for those passionate about driving the UK's energy transition. The day showcased not only the technical excellence within the industry, but also the collaborative spirit needed to meet climate goals head-on.

Looking ahead

With momentum growing in the heat pump sector, events like this play a vital role in connecting the dots – between policy and practice, between innovation and implementation. The GSHPA looks forward to continuing these conversations, supporting members, and helping to ensure that heat pumps really are the future – accessible, efficient, and sustainable for all.

Info
https://gshp.org.uk

Why lifetime carbon needs to be part of every heat pump conversation

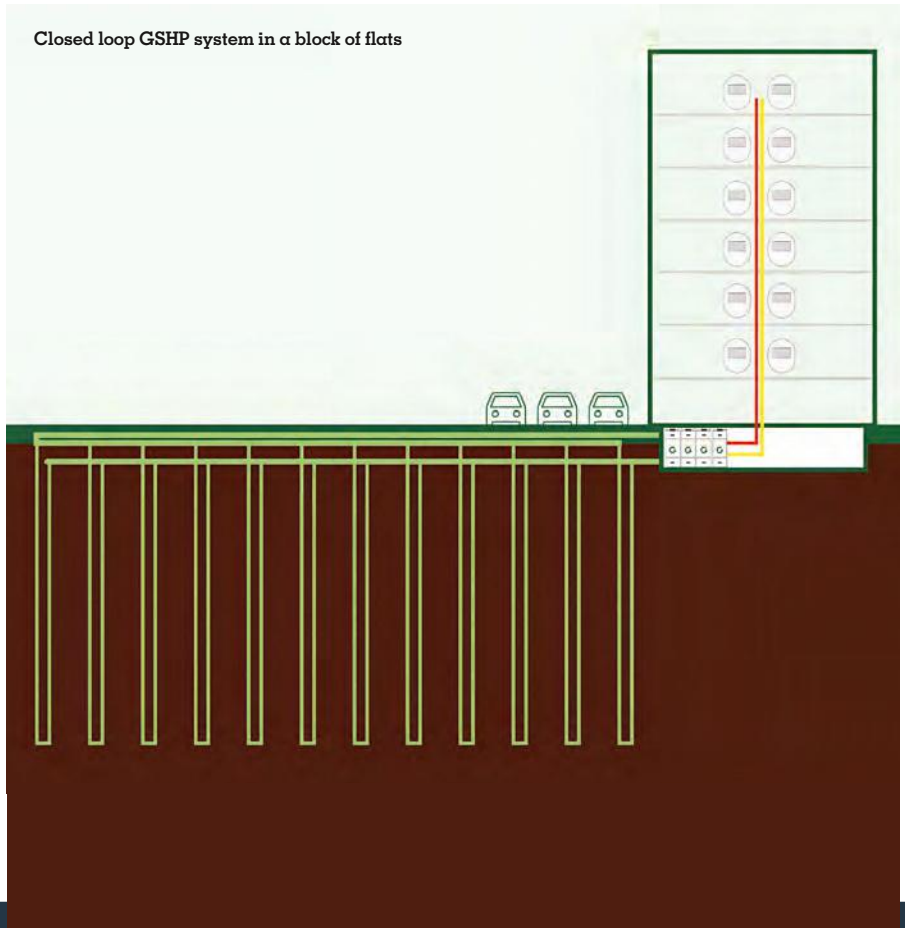
Chris Davidson, CTO at Genius Energy Lab, offers an insightful perspective on embodied carbon, which he believes should be considered alongside operational carbon to form a complete lifetime carbon profile for systems expected to operate for up to 100 years.

As pressure mounts to decarbonise the UK's building stock, heat pump systems are stepping into the spotlight. The shift away from gas is well underway, and last year the UK's greenhouse gas emissions dropped to their lowest level since 1872 - largely thanks to phasing out coal-fired power and scaling up renewables. We've made real gains by cleaning up electricity - the more straightforward part of the decarbonisation puzzle. But when it comes to heating and cooling, progress has barely begun, and with performance metrics still geared towards short-term figures, there's a real risk they'll skew long-term decisions in ways that aren't immediately obvious.

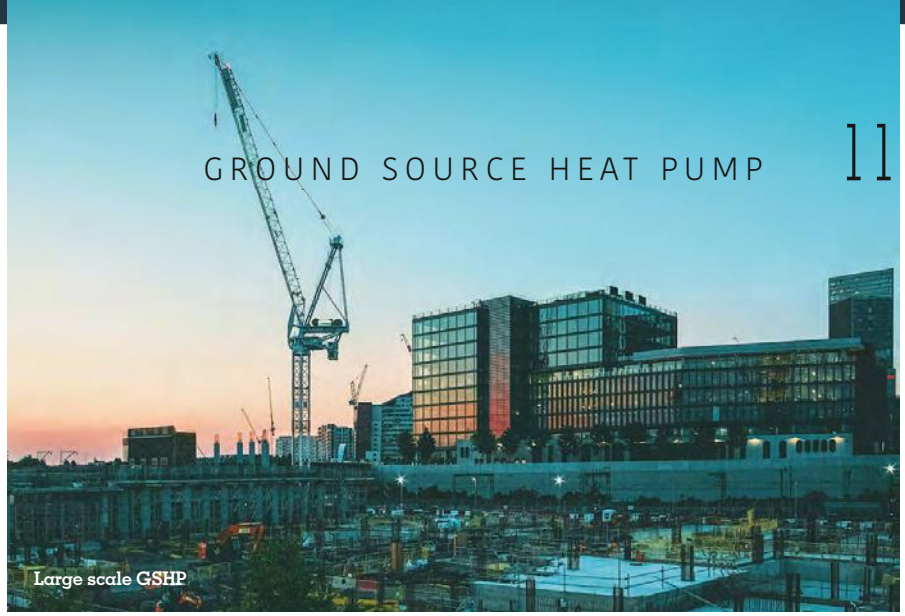
Much of the current conversation around carbon focuses on what happens before the system is even switched on - what's known as embodied carbon. It's now a common feature in client briefs and public sector frameworks, and rightly so. We should certainly account for the carbon cost of manufacturing, transport, and installation of a system, but too often, assessments stop there. What's often overlooked is how that system performs over the long haul. In reality, the bulk of a heating or cooling system's carbon footprint doesn't come from its manufacture - it comes from how efficiently it runs over time, and how long it lasts. Embodied carbon needs to be taken into consideration alongside operational carbon to create an overall lifetime carbon picture for systems operating for 50, 75 or even 100 years.

Focusing too heavily on embodied carbon risks creating a false economy. On paper, a ground source system may seem like the higher-carbon choice at installation, but over time, the numbers tell a different story. To get a more accurate measure of environmental impact, we need to bring a broader lens to the assessment. That means going beyond emissions from manufacture and delivery, and accounting for actual energy use, replacements, and how well the system performs in use. It means thinking in terms of lifetime carbon. Whole-life carbon assessments are already making their way into public sector projects - and they're only going to grow in importance. For anyone working in design or installation, it's worth getting ahead of that shift now.

Chris Davidson, CTO at Genius Energy Lab



Closed loop GSHP system in a block of flats


Large scale GSHP

When comparing heating and cooling systems over their full lifespan, the numbers tell a very different story. Take a 1MW installation: whether you opt for a closed-loop ground source heat pump, an air source heat pump, or a gas boiler paired with a VRF or VRV system, the picture changes once performance over time is factored in. On first glance, embodied carbon, the emissions from manufacturing and installation, doesn't favour the GSHP. But that's only part of the equation.

A closed-loop GSHP, evaluated over a 100-year period to reflect the longevity of the borehole, generates around 34% of the lifetime carbon emissions of a typical gas boiler and VRF system. An equivalent ASHP system comes in at around 48% - and in both cases, that gap is likely to widen. As the UK grid continues to decarbonise, the operational emissions of electrically driven systems like GSHPs and ASHPs will fall further, making the long-term carbon case even stronger.

The difference lies almost entirely in how each system uses energy. Ground source systems operate at higher efficiencies, typically delivering a coefficient of performance (COP) of around 4 for heating and a seasonal coefficient of performance (SCOP) of 5 or more for cooling, thanks to the stable ground temperature acting as a natural heat sink. That efficiency extends to design simplicity too: no need for extra rooftop plants, ducting, or cooling equipment. Air source systems, by contrast, are more exposed to ambient temperature swings and usually achieve a COP and SCOP closer to 3, with more variability. Gas systems, of course, carry the ongoing carbon penalty of burning fossil fuels - and when paired with electric cooling, their operational emissions rise even further.

While ground source systems carry more embodied carbon up front - largely due to borehole drilling and material - this so-called "carbon debt" is paid back surprisingly quickly. In fact, the GSHP catches up with ASHP on total emissions in just over a year. After that, every kilowatt-hour saved is a long-term gain, so although embodied carbon might be the easiest thing to count, it's the least important number in the long run. For systems that will be running for generations, what really matters is how efficiently they operate and how long they last without major reinvestment. That's especially true of ground source systems, where the underground loop can last 50 to 100+ years - far outliving most components in ASHPs or conventional systems. Fewer replacements means lower embodied carbon over time, and a more stable system with fewer disruptions.

Conventional systems don't fare any better. A gas boiler might be fine for heating, but cooling still requires a separate system which carries its own embodied carbon, replacement cycle, and operational inefficiencies. Put simply: GSHPs are pulling double duty. They offer an efficient, low-carbon, integrated system with fewer replacements, lower emissions, better long-term performance, yet they're often overlooked, not because they underperform, but because their value is masked by a slightly higher upfront cost. That puts GSHPs at an unfair disadvantage, even when they deliver far better long-term outcomes.

A call to action: Think long-term

It's tempting to focus on embodied carbon - it fits neatly into procurement metrics. But that short-term view tells only part of the story. A system that looks low-carbon on day one might tick a box in a spec sheet, but it won't stand up to scrutiny if you're serious about climate impact. So what does this mean for those specifying, designing, and installing these systems?

For installers, it's about being prepared to challenge assumptions. If a client or contractor pushes back on GSHPs due to embodied carbon, it's worth asking what timeframe they're measuring over. If the goal is to decarbonise the building's energy use for the long haul, a system that repays its carbon debt in a year and performs for decades is the smarter investment.

For consultants, this shift demands a more joined-up approach to lifecycle thinking. Whole-life carbon assessments aren't just for flagship net-zero schemes anymore, they're becoming part of standard sustainability metrics, especially in the public sector. Factoring in replacement cycles, efficiency in cooling, and operational variability should be core to the design process, not bolted on afterwards. And for manufacturers and suppliers, there's an opportunity to take the lead in how carbon data is presented. It's one thing to provide an embodied carbon figure for a unit, but it's far more useful to supply lifecycle data that reflects how that system performs in context.

We all know that heating and cooling systems don't exist in a vacuum. They're part of complex buildings, often serving multiple needs, over long lifespans. That means the way we talk about carbon impact needs to evolve, because the tools and language we're using now aren't giving clients, or contractors, the full picture. If we're serious about net zero, we need to stop treating embodied carbon as the final word. It's one metric — not the whole picture. What matters is what happens in year ten, thirty, or seventy-five. That's why lifetime carbon should be the baseline for every serious heating and cooling spec.

Ground source systems are infrastructure, not just equipment. When properly planned and installed, they can deliver efficient, low-carbon heating and cooling for generations. For those in the trade - whether you're specifying, designing, or on the tools - the shift to lifetime carbon thinking is a chance to lead, challenge short-termism, and make decisions that stand the test of time. Because if we're going to decarbonise heat properly, we need to look past what's easiest to quantify today, and start thinking about what we'll be living with tomorrow.

Info
www.geniusenergylab.com

From historic to high-tech: Integrating ground source heat pumps into heritage properties

Emma Bohan, Managing Director of IMS Heat Pumps/Geowarmth and Vice-Chair of the Ground Source Heat Pump Association, discusses overcoming challenges and the benefits of Ground Source Heat Pumps (GSHPs) in settings ranging from contemporary homes to centuries-old estates.

As the UK accelerates toward its net zero targets, decarbonising heating in existing buildings remains critical — especially within the often-overlooked category of heritage properties. Traditionally reliant on oil, LPG, or electric systems, these buildings present both challenges and unique opportunities.

While not always at the forefront of mainstream campaigns, GSHPs are proving to be a quiet revolution — discreet, efficient, and reliable in settings ranging from contemporary homes to centuries-old estates.

Why GSHPs make sense for heritage Buildings

GSHPs extract low-grade heat from the ground using buried pipework — either through horizontal trenches or vertical boreholes. That heat is compressed and upgraded for use in space heating and hot water. Their impressive efficiency — often achieving Seasonal Coefficients of Performance (SCOP) between 3.5 and 4.5 — makes them a compelling option for off-gas-grid heritage sites.

Emma Bohan, Managing Director of IMS Heat Pumps/Geowarmth and Vice-Chair of the Ground Source Heat Pump Association

Key benefits include:

- Up to 400% efficiency
- Stable, year-round performance
- Silent operation with minimal above-ground footprint
- Lifespan of 20–25 years for the unit, and over 50 years for the ground array

These features are particularly relevant in listed or conservation properties where visible alterations are restricted.

Debunking the myth: Heat pumps and heritage don't mix

There remains a widespread myth that older buildings and modern renewable systems are incompatible. However, research and practice are steadily proving otherwise.

A 2023 report by Historic England, "Heat Pumps in Historic Buildings[1]", concluded that both air and ground source systems can work in listed properties — with careful planning and sensitivity to the building's fabric and layout.

Similarly, the Electrification of Heat Demonstration Project[2], led by Energy Systems Catapult, trialed heat pumps in homes across the UK — including pre-1919 properties. The results? Heat pumps are suitable for all property types, provided design and installation are done to high standards.

We've seen first-hand how ground source systems can deliver comfort and carbon savings without compromising heritage. When done right, heat pumps are absolutely compatible with even the most sensitive buildings.

Real-world results: GSHPs in heritage settings

TIXALL GATEHOUSE – A landmark project in every sense

Tixall Gatehouse[3] is a spectacular Grade I listed building set in open Staffordshire parkland. Built around 1580 and described as "one of the fairest pieces of work made of late times in all these counties," the building is the last surviving element of Tixall Hall. Once a prison for Mary, Queen of Scots and now owned by the Landmark Trust, the gatehouse is undergoing major renovation — including the installation of a discreet, low-carbon GSHP system, designed and installed by IMS Heat Pumps.


Tixall Gatehouse

System overview:

- 5 vertical boreholes
- 2 × NIBE F1156 18kW units
- 300L hot water cylinder and 220L buffer tank
- Underfloor heating to support low-temperature distribution

This installation respects the building's layout and heritage while dramatically improving comfort and sustainability for future use.

CAMBRIDGE TERRACE – Grade I listed london residence

Part of John Nash's iconic terraces in Regent's Park, Cambridge Terrace[4] has been converted into the largest private residence in London after Buckingham Palace. A GSHP system was installed to provide both heating and cooling, using a thermalbank approach — storing heat in the ground during summer and recovering it in winter.

The system meets the property's demanding environmental and comfort requirements while remaining invisible to the surrounding historic façade. With limited options for external plant, the underground solution proved ideal for a high-spec, low-carbon retrofit in a protected location.


Cambridge Terrace

MUNCASTER CASTLE – Flagship installation in a Living Estate

Home to the Pennington family for over 800 years, Muncaster Castle[5] in Cumbria needed a heating solution that aligned with its sustainability goals. A GSHP system using vertical boreholes was installed to serve both the castle and adjacent estate buildings.

Despite being featured in a government heat pump campaign — mistakenly represented as an air source installation — the site in fact runs on a ground source system. The project stands as a prime example of low-carbon infrastructure working seamlessly within a Grade I listed, multi-building estate

Technical considerations for installers

Working with heritage buildings requires a tailored approach:

- Heat loss assessment: Use dynamic modelling; fabric upgrades may be limited
- Flow temperature design: Low-temp systems (35–45°C) suit UFH and modern radiators
- Ground array design: Horizontal loops are best where land is available; boreholes offer compact alternatives
- Planning & consent: Engage with conservation officers early
- Distribution options: Use low-flow radiators when UFH isn't viable

Respecting interior aesthetics: Heating with style

Where underfloor heating isn't feasible, traditional cast iron radiators can be retained or upgraded. A wide variety of modern cast iron-style radiators now combine classic looks with compatibility for low-temperature systems — offering both efficiency and visual harmony within historic interiors.

Support schemes and financial incentives

In England and Wales, the Boiler Upgrade Scheme (BUS) offers up to £7,500 toward GSHP installations. In Scotland, Home Energy Scotland provides grants and interest-free loans. These schemes make ground source solutions financially viable, particularly for off-gas-grid heritage properties

Conclusion: A compatible future

The belief that heat pumps and heritage don't mix is rapidly being dismantled. With careful planning, sensitivity, and the right expertise, GSHPs can meet the comfort and carbon goals of even the most historically significant sites.

Whether a castle, city terrace, or countryside gatehouse, Ground Source Heat Pumps represent a future-ready, heritage-respecting solution.

As retrofit technology improves and more successful heritage projects are completed, the sector is steadily shifting from resistance to confidence. Demonstrating what's possible in buildings like Tixall Gatehouse or Muncaster Castle is helping to pave the way for wider adoption across the country.

Source

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Info
www.imsheatpumps.co.uk

Beneath our feet: Closed loop ground source heat pumps and the rise of subsurface energy infrastructure

From rural schools and retirement villages to high-rise flats in bustling cities, closed loop ground source heat pump (GSHP) systems are quietly reshaping Britain's energy landscape. **Mike Moggeridge**, Managing Director of Qvantum Solution Design, explains how this technology is unlocking the vast geothermal resources hidden beneath our towns, campuses and coalfields.

In an era defined by climate commitments, energy price volatility and a need for infrastructure that delivers quietly and efficiently, ground source heat is making a powerful resurgence. Once an underused niche, closed loop systems have emerged as a leading low-carbon heating and cooling solution for buildings across the public, residential and community sectors.

At their core, these systems harness the Earth's natural and stable subsurface temperatures by circulating a heat transfer fluid through a sealed underground pipework loop. This fluid absorbs heat in winter and dissipates it in summer in cooling mode — providing a renewable, low-carbon source of comfort that operates silently, safely and with minimal maintenance.

Where closed loop GSHPs deliver best

One of the greatest strengths of closed loop GSHP systems is their adaptability. With proper site investigation and ground modelling, they can be deployed across a wide variety of developments:

Schools and education campuses: With consistent, term-time heat demand and accessible outdoor space, schools are ideal candidates. GSHPs can be installed below playing fields or car parks, delivering reliable heat with lower running costs and emissions —a critical factor for councils and academy trusts managing tight budgets.

Retirement villages and care homes: In environments where quiet, consistent warmth is essential, GSHPs outperform combustion systems. They integrate well with underfloor heating, reduce indoor air pollution, and support Net Zero ambitions in the care sector.

High-density residential and urban flats: Vertical boreholes allow these systems to serve multi-storey blocks, even in space-constrained areas. Central plantrooms can feed multiple apartments via low-temperature distribution systems — decarbonising urban living with no rooftop space required.

Mike Moggeridge, Managing Director of Qvantum Solution Design

Community and district-scale networks: With the right borehole array and thermal modelling, closed loop systems can anchor localised heat networks for clusters of buildings or even entire developments — making them ideal for regeneration zones, public sector estates and campus-style layouts.

Why closed loop?

Unlike open loop systems that extract and discharge groundwater, closed loop boreholes are entirely sealed. They exchange heat through direct contact with the surrounding geology — removing the need for Environment Agency abstraction licences, groundwater risk assessments, or flow-based performance dependency.

This makes them ideal for sites where:

- Water quality is poor or uncertain;
- Regulatory timelines are tight;
- Simplicity and predictability are critical;

A Qvantum Solution Design thermal response test rig measuring the thermal properties of the ground through a test bore hole before ground source heat pump installation

- Infrastructure must be installed and left to operate with minimal intervention.

With design lives of up to 100 years for boreholes and 25–30 years for heat pump units, closed loop systems offer unparalleled long-term value. Once installed, the energy beneath the building is forever available, making them a form of 'subsurface energy security'.

Geology as an energy asset

Thermal conductivity — the rate at which heat moves through the ground — is a key metric for GSHP performance. And in this respect, UK geology is a strategic advantage.

Sherwood and Warwickshire Sandstones, widespread across England, consistently return thermal conductivities of up to 3.45 W/m·K in Thermal Response Testing (TRT), while volcanic tuff formations in the Midlands have demonstrated conductivity results of up to 5.91 W/m·K, placing them among the highest recorded in the UK. Meanwhile, beneath cities like London, ground temperatures at depth reach 16.15°C — greatly enhancing winter heating performance.

Yet it is in the coal measures that perhaps the most potential lies. The UK's coalfields represent more than legacy — they offer real opportunity. Beneath towns from Glasgow to Cardiff, Nottingham to Newcastle, lie vast reserves of subsurface heat stored in the carboniferous coal measures. And it is now understood that the geothermal energy contained within Britain's coal-bearing strata exceeds all the energy ever extracted from them as coal.

Supporting energy security and grid resilience

Closed loop GSHPs don't just cut emissions — they help to reshape energy economics. By relying on local thermal resources rather than imported fuels, they improve the UK's energy independence, reduce exposure to price volatility, and shift heating loads away from peak electricity demand.

They are uniquely well-placed to support electrification of heat strategies alongside:

- Smart controls and demand-side response
- Low-temperature heat networks
- Grid-stabilising infrastructure in all-electric buildings

As fossil fuel heating systems are phased out, these systems form a quiet but crucial backbone of the UK's clean energy transition.

Drilling a borehole ready for an installation

Financing the future

To support the deployment of GSHPs at scale, public and private sector access to capital is essential. Fortunately, two major government funds are actively enabling this:

Green Heat Network Fund (GHNF)[1]: The GHNF provides capital support for new and expanded low-carbon heat networks that use renewable sources—including GSHPs. Projects that incorporate closed loop borehole systems as the heat source, particularly within public or multi-building developments, are eligible for substantial grant support under this scheme.

This fund is ideal for:

- Council-led district energy systems
- NHS estates or higher education campuses
- Regeneration zones with centralised plant

Warm Homes: Social Housing Decarbonisation Fund (SHDF)[2]: The SHDF supports upgrades to low-income and social housing stock to improve energy efficiency and reduce fuel poverty. Closed loop GSHPs, particularly when replacing gas boilers in apartment blocks or off-gas communities, can be part of a broader retrofit package funded under SHDF Wave 2.

Registered providers and housing associations can apply individually or in consortia to secure funding that includes GSHP installations as part of a fabric-first, whole-home approach.

With the right feasibility studies and stakeholder coordination, these funds can unlock entire portfolios of sites — ensuring low-carbon warmth for the households who need it most.

Conclusion: Beneath our feet lies the future

Closed loop borehole GSHP systems are a vital part of the UK's decarbonisation and energy security toolkit. Quiet, powerful, and engineered for the long-term, they offer a renewable heating and cooling solution ready to scale — across city centres, suburbs, rural towns and former coalfield communities.

With the right funding, the right geological intelligence, and the right delivery partners, we can embed this technology across Britain's infrastructure — turning dormant geology into a strategic asset.

The transition is already underway. The question now is not if we drill, but where next.

Source

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Info
www.qvantum.com/uk/about-solution-design

A drone-captured image showcases the indoor pool

An impressive performance:

Ground Source Heat Pump (GSHP) delivers remarkable energy efficiency and cost savings

Neil Lawson, Managing Director at GeoEnergy Design (GED), discusses a project where a ground source system is at the heart of an innovative energy solution — providing heat for an indoor pool and supplying all the electricity for the house, all for less than £6 per day during winter.

When news broke in 2023 that **Rishi Sunak** had installed an indoor heated pool in his North Yorkshire mansion, I quietly hoped it was heated by a heat pump. When I dug further, headlines were abundant like 'Rishi Sunak's new private heated swimming pool uses so much energy that the local electricity network had to be upgraded to meet its power demands, the Guardian has been told.

Articles state, 'Construction work on Sunak's private 12-metre (40ft) swimming pool has finished just as many council-run baths, including in his local area, are being forced to reduce their opening hours owing to increased energy costs. This week, the House of Commons Culture select committee called on the government to offer extra help to swimming pools in the forthcoming budget, suggesting 350 pools had closed or cut their hours as a result of energy costs.

Articles like this, regularly featured in the Guardian make me want to scream! Heat Pumps are part of the solution, not the problem if considered and designed appropriately!

Neil Lawson, Managing Director at GeoEnergy Design (GED)

The project: Build an indoor pool that cost very little to run

In March 2022, a long-term business associate contacted GED, wanting to build an indoor pool that cost very little to run. He had already installed a condensed 48kW peak solar farm in the space of a tennis court with 100kVA 200kWh battery to power his house, and now he was ready for a GSHP for his new pool project, and he hoped that GED could design the solution.

Nearly 3 years later, his very dream is a reality. In our dreary wet winter, the running costs are averaging £6/day, but as the sun made an appearance in early April, running costs dropped to zero.

Done correctly, Rishi Sunak and indeed the government could have saved money on costly grid upgrades, instead investing it into onsite generation and storage. If we manage our demand, then the grid could shrink, not collapse as certain sectors of the press would have us believe.

The go-to technology for a pool builder is the old faithful Air Source Heat Pump (ASHP), cheap and cheerful, harvesting low-grade heat from the atmospheric air, and compressing it to generate useful heat to heat a pool. They need very little design capability and when sized correctly are a fit-and-forget. But they are a compromise.

The challenge with an indoor swimming pool is that they are intrinsically energy-hungry, even requiring heat in a UK summer. The pool hall air is kept at 2°C above the water temperature, which is typically 28 to 31°C to reduce evaporation. This continual draw on the

harvesting of low-grade ambient heat through boreholes or a horizontal collector result in a system hugely oversized when a 50-year sustainable energy model is created. Putting waste heat back into the ground during the summer months makes a significant difference in reducing the size of a collector. The lifespan of a collector is 120 years, hence the need to model over 50 years. The conversation started around 'free cooling'. Cooling is a by-product of heating with a heat pump, so if you can utilise both sides of the equation, suddenly, the COP (Coefficient of Performance) starts to add up. A COP of 5 for heating and 3.5 for cooling means that 1kW of electricity can generate 8.5kW of useful coolth and heat, also quoted as 850% efficient. In this instance, there was no local need for cooling, although we are seeing increasing demand as the UK experiences warmer summers.

Another way to recharge the boreholes is using solar thermal. The Mansard roof design on the pool building created a hidden well where 20kW of solar thermal could be secreted. Combining solar photovoltaic with solar thermal has a similar double benefit to simultaneous heating and cooling with a GSHP where the harvesting of heat from the PV panels, thereby reducing their temperature increases the efficiency of the PV.

The interior of the pool

Traditionally solar thermal is used to heat domestic hot water to 65°C, but here we have the perfect scenario, whereby once the DHW is satisfied, the solar thermal switches to heating the pool hall, then pool water and finally recharging the boreholes. In this way, you can harvest 5x more solar thermal from the sun than a simple DHW system, even in the depths of winter or cloudy days, when the panel temperature only needs to be 5°C more than the ground temperature to transfer heat. The owner knew of Naked Energy, so an introduction was made, and a deal was struck.

How do we marry all these technologies together and really make them work – experienced designers!

Origin Pools and Heatstar were very open to being challenged on their traditional build specification, to create something truly innovative and efficient. Naked Energy who produce PVT tubes, a combination of solar thermal and photovoltaic panels shared all their performance data down to the minutiae detail, enabling a solution that could be worked out from the ground up.

The client said of the project: "Firstly the installation is working fantastically, and the installation is really impressive in terms of performance. Everything from the Naked Energy tubes to the ground source heat pumps etc is linking together well and with the battery, we are covering all the electricity at £6/day including the house in winter"

The final specification:

GSHP – CTC 40kW, 5no. 115m boreholes
Installer: Baystar

PVT – Naked Energy, 5kWe, 20kWth
PV – 48kW
Storage – 200kWh

Pool: 14m L, 4.5m W, 1.3m D

Spa; dia. 2.5m

Pool is insulated underneath as well as the sides.

Pool cover: automated

Pool air handling: Heatstar XF EC4000 Super

Pool water heat exchanger is external with 35C primary LTHW setpoint.

DHW, UFH from GSHP

Pool Builder: Origin Pools

Info
www.geoenergy.co.uk

An innovative mine water heating initiative

Fern Church, Marketing Manager at Thermal Earth, shares details of a recent project that harnesses heat from treated mine water — an innovative example of the company's commitment to sustainability.

Imagine a world where the warmth beneath our feet powers our homes and businesses. At Thermal Earth, we've turned this vision into reality with our mine water heating project. Picture this: naturally warm mine water, emerging at a constant flow of 14°C, heated by geothermal energy and residual heat from underground rock layers and former coal mines. We've harnessed this hidden treasure to provide low-carbon heating at our newly renovated renewable heating centre, spanning over 1800m².

This ambitious project was led by our Lead Engineer and Director, **Nick Salini**, whose expertise and vision were crucial to its success. But it wouldn't have been possible without the dedication and hard work of the entire team. In just two weeks, our team transformed this innovative idea into a fully operational system. Using heat exchangers submerged in a settlement pond at the Lindsay MWTS, we recover heat from the mine water and transfer it to our renewable heating centre. This process provides low-carbon heating and hot water, significantly reducing reliance on traditional fossil fuels.

Fern Church, Marketing Manager at Thermal Earth

Since going live on 14th March 2025, our project is predicted to save 17.5 tonnes of CO_2 per year compared to LPG.

Collaborations and partnerships

The success is also a testament to the power of collaboration. We worked closely with the Mining Remediation Authority and secured funding through Innovate UK. These partnerships were instrumental in bringing our vision to life.

Harnessing geothermal energy

Ground source heat pumps (GSHPs) utilise the stable temperatures found underground to provide heating and cooling for buildings. By tapping into the earth's natural heat, these systems can deliver consistent and reliable energy throughout the year. The process involves circulating a mixture of water and antifreeze through a loop of pipes buried

in the ground. This fluid absorbs heat from the earth and transfers it to the heat pump, which then distributes it throughout the building.

Efficiency and cost savings

One of the key advantages of GSHPs is their high efficiency. Unlike conventional heating systems that burn fuel to generate heat, GSHPs simply move heat from one place to another. This results in significantly lower energy consumption and reduced operating costs. Additionally, these systems have a long lifespan, often lasting 20-25 years, making them a cost-effective investment for homeowners and businesses.

Environmental benefits

GSHPs offer substantial environmental benefits. By reducing reliance on fossil fuels, they help lower greenhouse gas emissions and combat climate change. The use of geothermal energy is a clean and sustainable solution that minimises the environmental impact of heating and cooling. Our projects, such as the mine water heating initiative, demonstrate the potential of GSHPs to drive significant reductions in carbon emissions.

Installation and maintenance

Installing GSHPs requires careful planning and expertise. The process involves drilling boreholes or laying horizontal loops in the ground to create the heat exchange system. We ensure that each installation is tailored to the specific needs of the site, optimising efficiency and performance.

Regular maintenance is essential to keep the system running smoothly, including checking fluid levels, inspecting pipes, and ensuring the heat pump is functioning correctly.

Future of GSHPs

The future of GSHPs looks promising as more businesses and homeowners recognise their benefits. Advances in technology are making these systems even more efficient and easier to install. We will continue to lead the way in developing innovative solutions that push the boundaries of renewable energy. As the demand for sustainable heating grows, GSHPs will play a crucial role in reducing carbon footprints and promoting environmental sustainability.

Conclusion

GSHPs are revolutionising the renewable heating industry. Their efficiency, cost savings, and environmental benefits make them an attractive option for sustainable heating solutions. Our commitment to innovation and sustainability is evident in their groundbreaking projects, setting a benchmark for the industry. As we move towards a greener future, GSHPs will be at the forefront of this transformation, providing reliable and eco-friendly heating for homes and businesses.

Info
www.thermalearth.co.uk

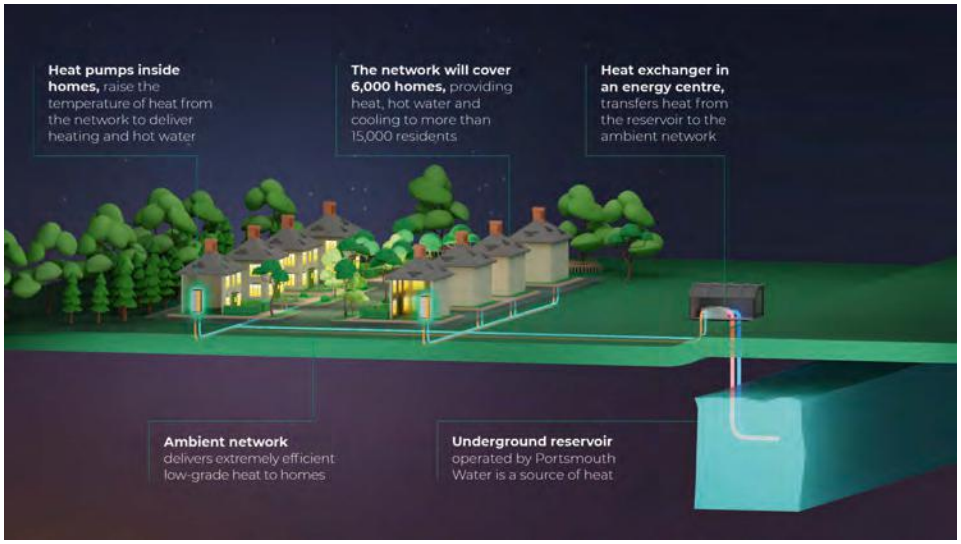
Welborne garden village secures UK's largest water-source heat network for entire 6,000 home project

Ivan Horoshenkov, Strategy Director at Rendesco, discusses the UK's largest water-source low carbon heating and cooling network which is being installed at Welborne, a new generation sustainable garden village in Hampshire.

Ivan Horoshenkov, Strategy Director at Rendesco
(Photo: Eddie Judd Photography)

The first of its kind technology initially supplies 700 new homes, commercial premises, and community buildings in the first phase of the development. As Welborne expands, it is planned that the network will supply all 15,000 residents in 6,000 new homes with heat, hot water, and cooling.

Rendesco has been commissioned by Buckland Development, the Master Developer of the new community, to deliver the first phase of the network. The network will be owned and operated by Last Mile Heat, the Heat Trust registered low-carbon heat supplier, which is an innovative joint



venture between Last Mile and Rendesco.

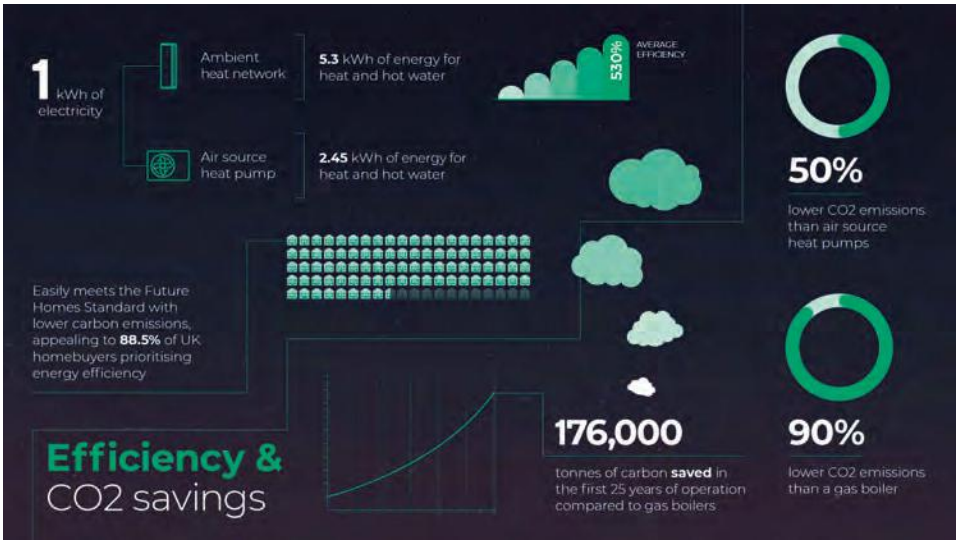
The first groundbreaking system will further bolster the garden village's impressive sustainability credentials by ensuring that the project has a reliable and sustainable supply of clean heat and hot water, in addition to cooling technology helping to future-proof the project.

The network draws water from Portsmouth Water's underground Hoads Hill Reservoir, making it significantly more efficient than air source heat pumps due to the more stable and higher average temperature of the reservoir. It emits 90% less CO_2 emissions than a gas boiler and 50% less than air source heat pumps. It is also cheaper for customers, saving an average three-bedroom house around £160 per year compared with an air source heat pump. A unique feature of the network is its ability provide cooling in the warmer months by reversing the process and expelling heat back into the reservoir.

The network also includes an innovative energy exchange function which allows heat to be transferred between homes and other buildings. When one building is cooling, it can supply its excess heat to other buildings in the network which can then be used for central heating or hot water. As a result, the complete network has the potential to save over 272,000 tonnes of carbon in the first 25 years of operation, compared with gas boilers, which adds up to the emissions of more than 33,000 average homes.

The announcement came as housing developers adjust to the Future Homes Standard which will ban gas boilers in new build homes from 2025 and will require new build homes to be equipped with low carbon forms of electrified heat such as heat networks or heat pumps. The Government recently opened the consultation for the Future Homes Standard in December where they reaffirmed their commitment to electrified sources of heat.

Today, the network has progressed through construction and the initial dwellings have been connected, with hundreds more to follow in the coming months.



Heat pumps and beyond:
Evolving the Boiler Upgrade Scheme for Britain's net zero future

Gav Murray, Hive Heating Director at Centrica New Business Net Zero, explains how the Boiler Upgrade Scheme is making the eco-switch more affordable — and therefore more accessible for homeowners and small businesses.

The UK's commitment to achieving net-zero carbon emissions by 2050 has put home heating systems firmly in the spotlight. With domestic heating accounting for approximately 18% of the UK's total emissions[1], transitioning away from traditional gas boilers to low-carbon alternatives has become a critical focus of Government policy. The Boiler Upgrade Scheme (BUS) helps home and small business owners take a step forward on their journey, offering financial support that makes the eco-switch more affordable and therefore more accessible.

Gav Murray, Hive Heating Director at Centrica New Business Net Zero

Understanding the Boiler Upgrade Scheme

Launched to accelerate the adoption of low-carbon heating systems, the BUS provides up to £7500 for homeowners and small businesses in England and Wales to subsidise the cost of installation for new heat pumps and biomass boilers.

This funding is designed to cover a large proportion of the upfront installation costs associated with these technologies, making it an attractive alternative to a gas boiler for homeowners. Over the last 12 months the government committed £189m to the scheme, up from its £50m in 2022 when it first began. The rising budget has increased in line with growing demand, and the next 12 months look set to see further investment to continue this momentum.

March marked a significant milestone for the scheme, recording its highest-ever number of applications and surpassing 4,000 for the first time – proving the scheme's growing success.

The benefits beyond the grant

While the financial assistance is significant, the advantages of transitioning to low-carbon heating extend far beyond the initial installation support.

Modern heat pump systems operate with remarkable efficiency, typically up to four times as efficient as a gas boiler. For homeowners, this efficiency translates directly into savings on monthly bills.

The environmental impact is equally significant. Early data reveals that heat pumps installed under the BUS program prevented approximately 17,000 tonnes of carbon from entering the atmosphere in the first year of the scheme[2]. That's equivalent to the emissions generated from around 55,000 transatlantic flights between London and New York[2].

Low carbon heating technologies have also been shown to benefit property values, often driving up house prices. A report shared by Oxford Economics last year showed that, environmentally conscious buyers are increasingly willing to pay more (+3.4%) for properties that already have

these systems installed, viewing them as both a lifestyle choice and a long-term investment[3].

Perhaps most importantly though, transitioning to low-carbon heating is a forward-thinking decision. As the UK progresses toward its net-zero commitments, early adopters are effectively future-proofing their homes against upcoming regulatory changes and potential carbon taxation. What seems like a progressive choice today is shaping up to be the standard requirement tomorrow.

Addressing the adoption challenge

Despite the clear benefits, heat pump adoption in the UK continues to lag behind many of our European neighbours. While the BUS represents a positive step forward, several key challenges remain that must be addressed to accelerate the sustainable heating transition, if we are to reach a level of production and adoption where the BUS can be reduced or removed.

Britain's varied housing stock poses a substantial challenge. The reality is that not every UK property is currently suitable for standard heat pump technology. Many older buildings, apartment blocks, homes with architectural constraints and poorly insulated buildings require alternative low-carbon technology. The government's recent announcement, that it is consulting whether to expand the BUS to also include low-carbon boilers such as air-to-air heat pumps and heat battery (zero emission) boilers, along with heat pumps, could offer an alternative solution to help households to decarbonise their properties.

A skills shortage is another challenge facing the industry. To overcome this challenge, Hive is asking for urgent reform of the apprenticeship levy, to enable businesses to upskill their engineers to install heat pumps using existing funding. This will help speed up uptake because the installation services will be there to meet demand and drive forward adoption.

Perhaps equally important is the lack of education around heat pumps and low-carbon heating technology in general. Many homeowners remain unfamiliar with how heat pumps function or the specific benefits they offer. Education efforts targeting both tradespeople and homeowners represent a crucial component in driving up adoption rates. Critically, communication around heat pumps must not only focus on environmental benefits but also tangible advantages to individual households, including comfort, running costs and property value.

The path forward: A holistic approach

To accelerate heat pump adoption and meet climate goals, we need to move beyond viewing these systems as mere boiler replacements and embrace a more comprehensive approach.

Integration is key – heat pumps should function as central components in connected home energy systems. Take our recently launched Works With Hive platform[4], for example, which allows partner devices to be easily controlled through the Hive App as part of the Hive ecosystem.

Bringing together device control and reporting in one place, uniting disparate home technologies into a cohesive ecosystem that delivers both simplicity and optimal efficiency for customers, therefore reducing costs. Immediately, this simplifies the technology and brings immense value to the consumer.

Timing matters significantly in the transition to low-carbon heating. We notice that for us, spring and summer heat pump installations are most popular, as heat pump upgrades are planned during heating system downtime, when their installation causes minimal disruption to households.

Furthermore, energy providers have a crucial role to play through specialised offerings. Tailored energy tariffs, already common for solar and EV, designed specifically for heat pump users could provide tangible financial benefits, making adoption more attractive.

One of the most important elements for the low carbon heating market is consistency, because over the last few years, there have been multiple grant and policy changes. And whilst some have been very positive, for example, the Boiler Upgrade Scheme grant increases - the market needs consistency to provide consumers, installers and manufacturers with confidence in low carbon heating technologies.

We're looking forward to the upcoming Warm Homes Plan Strategy, which will set out the Government's long-term vision for how we will decarbonise UK homes and reduce energy bills over the next 5 years. This plan, once confirmed, will provide much needed clarity and give homeowners and the industry that much needed confidence that this technology really is the future.

The challenge of widespread heat pump adoption isn't technological, because the innovation is there. The solution to driving uptake requires reimagining consumer engagement, energy pricing structures and Government support. This holistic approach represents our best chance to transform residential and commercial heating at the pace climate urgency demands, creating comfortable, efficient homes while dramatically reducing carbon emissions.

Looking to the future

As we move forward, collaboration between industry, Government, and consumers will be essential in meeting our climate goals. The BUS represents an important first step, but its evolution must continue to address the practical challenges that homeowners face when considering the switch to low-carbon heating. The decision to extend the scheme to cover heat batteries is exciting news, and I hope homeowners, given another technology choice, will feel encouraged to make the switch.

Through innovative partnerships, strategic Government interventions, and comprehensive consumer education, we can ensure that the transition to sustainable heating is not just an environmental necessity but the best choice for every UK homeowner.

The heat pump revolution is underway, but its success will depend on our ability to make these technologies accessible, affordable and appropriate for the diverse housing stock that characterises the UK landscape. By working together, we can bridge the current divide and create a warmer, more sustainable future for all.

Info
https://hivehome.com
www.centrica.com

Source

1. Decarbonising Home Heating report (National Audit Office) 2024
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Over £19.5 million awarded in Round 7

HEAT NETWORK EFFICIENCY SCHEME

Heat Network Efficiency Scheme (HNES) announced its biggest round of funding since the scheme's inception. This saw almost £20 million allocated to help 63 heat networks. Funding will unlock efficiency improvements, greater reliability, and lower costs for low-income households, colleges, universities, and vital NHS facilities.

Support provided in Round 7 of HNES will benefit almost 8,000 residents by enabling warmer, reliable and more cost-effective heating provision. Capital funding awarded in this round will also help to reduce carbon emissions from space heating by the equivalent of 829 one-way flights from London to New York every year.

We are particularly encouraged by the notable increase in organisations applying for capital grant funding to implement heat network improvements recommended by an optimisation study also previously supported by HNES. This shows that support from the scheme is enabling project owners to both identify and implement improvements to their heat networks, as HNES supports them from initial study through to final works.

Notting Hill Genesis provides an example of this process in action, receiving capital support in Round 7 to implement improvements to the Baths Court heat network. Support in this round will go towards tackling issues with high energy consumption, and frequent heat outages. As a result, 32 residents will benefit from more reliable and efficient heating and hot water.

Louise Singleton, HNES Programme Manager at Gemserv, said: "Round 7 marks the largest funding package awarded since the introduction of the scheme in 2023. We are delighted with the level of interest that HNES is receiving, and it is clear to see why.

"We are beginning to see the fruits of optimisation studies funded in earlier rounds, as applicants return to the scheme for capital funding to help implement their study's recommendations.

"It is also clear that HNES can help unlock significant benefits for both people and the environment. So far, HNES has helped over 51,000 residents, 300 heat networks, and will save 200,000 tonnes of carbon over the next 40 years. As 2025 begins, we are looking forward to another year of improving outcomes for customers and operators."


Fulham Reach

Capital grant funding

Capital grant funding will go directly towards efficiency improvements to existing heat networks. In this Round, 22 heat networks will receive a share of £18.5 million. As a result of direct capital works carried out with the support of HNES, 5,111 residents will benefit from more reliable and efficient heating.

- **Local authorities**: Wolverhampton City Council, London Borough of Camden, Portsmouth City Council, Manchester City Council and London Borough of Islington, will receive between £8m and £48,600.
- **Housing associations and Social housing providers**: Notting Hill Genesis, Solihull Community Housing, Great Places Housing Association, Octavia Housing and The Guinness Partnership, will receive a proportion of approximately £3m.
- **Private sector**: New Islington Utilities Company Limited, Rendall and Rittner, FirstPort Service Limited, Warwick Gates LLP, PP ESCO (Clapham Park) Limited, will receive a proportion of close to £2m.

Revenue grant funding

Revenue grant funding will help heat network owners/operators to undertake optimisation studies to review the performance of their heat networks and identify areas for improvement. Applicants may also choose to subsequently apply for capital grant funding to enact the recommendations provided by the study. In this round, a total of £852,180 has been granted for 41 studies benefiting heat networks serving 2,859 residents. Organisations receiving revenue grant funding:

- **Housing associations and social housing providers include**: Abri Group Limited, Bernicia Homes Limited,CESSA HA Limited, Clarion Housing Group, Eden Housing Association Limited, Fairoak Housing Association, Great Places Housing Association.
- **Local authorities**: Oxford City Council and Haringey Council.
- **Health and education sector**: Generations Multi Academy Trust, Hywel Dda University Health Board, Liverpool University Hospitals NHS Foundation Trust, Oxford Brookes University and University Hospitals Plymouth NHS Trust.
- **Private sector**: Crookham Park Management Company Limited, Gateshead Energy Company, Russell Court (Bloomsbury) Management Ltd and Welby UK Ltd.
- **Charity**: The Salvation Army Training Centre.

To read who received the allocated funding visit: **https://tinyurl.com/y37hxpwf**
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WOMEN IN THE HEAT PUMP INDUSTRY

Louise Howlett, Commercial Director at R A Brown Heating Services, shares her journey in the heat pump industry, including her role as an inspirational spokesperson within and for the sector. With passion, she discusses the key challenges facing the industry and the importance of encouraging more women to join the sector.

Louise in her showroom at Horsham St Faith, Norwich

My first job after university was with an archaeological unit in Canterbury, where I worked in finds processing. I really enjoyed learning about different materials — particularly Roman artefacts — and loved the experience of working alongside volunteers.

I found my way into the heat pump industry somewhat inadvertently — by marrying a heating engineer, Richard Brown. Back in 2002, Richard was beginning to specialise in underfloor heating and was starting to take on larger projects outside of Norwich, such as barn conversions in rural Norfolk and Suffolk.

Around 2007, he was asked to supply an underfloor heating kit for an innovative self-build project in Suffolk. The homeowner was installing a ground source heat pump, which sparked Richard's interest in the potential of heat pump technology. This encounter inspired him to begin exploring the idea of installing complete heat pump systems himself.

Richard enjoyed working on larger, more complex projects and had a vision for growing the business. We were both drawn to heat pumps for their potential to decarbonise homes and reduce environmental impact. Together, we shared a passion for innovation and set out to create a new kind of service for our customers. I began developing a practical model for a specialist heating company — one that could meet the growing demand for sustainable solutions.

What does your current role involve?

Richard and I were both keen to grow our business. Over time, I found myself naturally taking on all the things that Richard either didn't enjoy or wasn't particularly drawn to. In many ways, I've taught myself how to handle everything involved in running a small to medium-sized enterprise (SME) — from the behind-the-scenes operations to the day-to-day management that keeps things moving forward.

We have built a good team over the years, so nowadays I focus on 'top level' tasks. We are currently overhauling all of our systems and processes to utilise a single end to end platform. Over the last couple of years, it has seemed essential for me to pivot to become more of a spokesperson within the industry. I have networked with our peers at a national level. I am continually 'scouting' around; looking for new tools, connections and opportunities to improve the way we work. I am currently writing a book – which is a big task to fit around everything else. I realised that homeowners need honest straightforward advice on how to set about switching to a heat pump. That's what I'm working on producing.

I'm very passionate about developing skills within our industry, and it's been a long-standing commitment for us— we've been running our apprenticeship programme for over 25 years. I'm actively involved in the MCS-led group supporting the delivery of the Low Carbon Heating Technician Apprenticeship, and I also represent our company on the CIPHE Trailblazer Group.

In November, I had the pleasure of attending the H&V News Awards ceremony as one of the judges. I was both surprised and honoured to be nominated — and even more so to receive the Outstanding Achievement of the Year award for my work in training and skills development, as well as for promoting positive messaging through The Heating Trades Network.

What do you see as the challenges facing the industry?

A severe lack of commitment from Government. Heat pumps are all 'talk' and only superficial action at the moment. Since the end of the Renewable Heat Incentive (RHI) in Spring 2022, nothing has properly aligned in the market. At times, it seems as though the powers that be expect the transition to heat pumps to happen 'by magic,' in spite of significant barriers such as 'the spark gap' and a lack of clear, measurable targets for the decarbonisation of houses.

I am also concerned about the quality of installations being delivered by large housebuilders. We have visited relatively new houses still being controlled by multiple thermostats, leading to inefficient system performance. This really upsets me as the homeowner is not wowed by their system and therefore not having the best 'heat pump' experience.

Possibly the most significant challenge for deployment of heat pumps in 'normal homes' is the recognised gap where grant finance is not sufficient to enable the homeowners' to afford to switch – they need a substantial and easily accessible 'green loan' which currently is not currently readily available.

Did you have any mentors or anyone in particular who inspired you?

I must admit I almost left the industry a few years ago – I retrained as a Nutritionist and Transformative Coach. Just as I was about to set up a 'wellbeing practice' in 2022 I realised that I needed to put my new shiny positive mindset back into the heating business. The detrimental effects of the end of the RHI were taking its toll. I worked alongside an amazing Coach – Emma Davis of Reconnect Retreats. I also have huge respect for a therapist I met along the way – Nicola Hall, along with peers in the industry such as Emma Bohan, Leah Robson and Andrea Ellison of GSHPA.

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

A lesson I've learned in recent years is that a blend of skills is needed in our industry. I used to be frustrated that I had to do all the business 'drudgery' because I wasn't the technical lead of the company. Now I feel that women can contribute a lot of vital skills in the sector; creativity, problem solving, customer service, leadership. In our company the Technical Sales personnel 'at the helm' are very talented but 'unstructured'. There are several very strong organised women who create the necessary structure and attention to detail needed to deliver the installations. Heat Pump installations require more of these skills than traditional heating partly because of MCS compliance and the longer sales journey. It may be a controversial thing to say but I believe many ambitious heating companies would benefit from bringing in a female MD to balance out their company and complement the technical founder and other Engineers who are almost invariably 'guys'. This could take away some of the 'stress' and feeling of overwhelm experienced by many heating company founders.

I feel another great role for women to come into within the industry is as a Mechanical Engineer – design work is so important within our industry.

It may seem like I'm not encouraging young women to train as heating engineers, but that's definitely not the case. There are just some practical challenges to address. I can see that some young women might consider training as heating engineers a few years after leaving school, but, to date, we haven't had any applications from female school leavers.

There are also financial barriers when it comes to taking on apprentices who are not school leavers, particularly due to the sharp increases in the living wage rates for 18–20-year-olds and those over 21.

However, I'd like to explore opportunities for female engineers leaving the forces who may be interested in retraining as heat pump technicians. It's a growing field, and I believe we could offer a great pathway for women looking to transition into this industry.

What do you like to do outside of work?

Lots of things. I love looking at historical ruins wherever I am in the world, castles, churches and Roman stuff. I am a keen walker – I feel sunlight and fresh air are so important for wellbeing. I enjoy meditative movement such as Qigong, Tandava and Pilates. I have a 'tribe' connected with my transformative coaching which finds me travelling to events in many locations. Richard and I are doing quite a bit of travelling this year – we're still very motivated by our work but don't believe in putting off exploring the world until we retire. We live in Norfolk surrounded by many beaches and have a beach obsessed dog! I also love cooking and chopping vegetables is my happy place after a day in front of the computer.

Louise and Richard enjoying one of her favourite pastimes — exploring historical sites together

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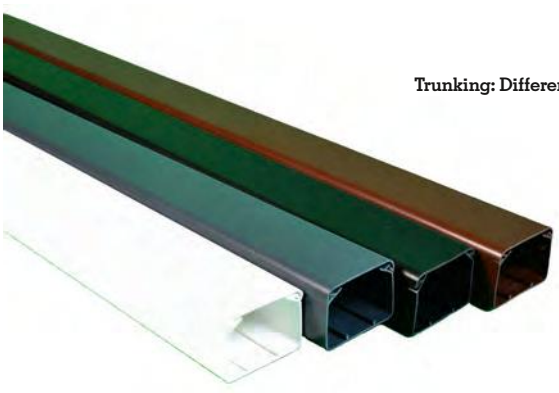
The Innovation Zone

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

StrutFast: Trunking and Rubber Feet

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

Strut*Fast* Trunking



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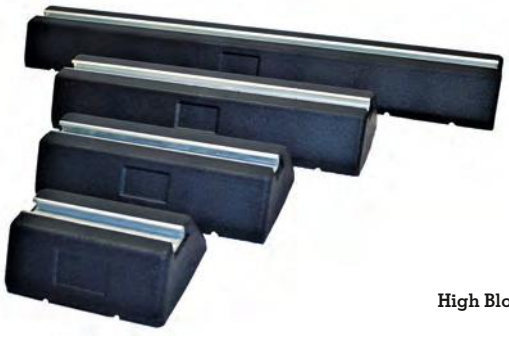

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Panasonic partners with British Gas to provide service & maintenance for Panasonic Aquarea Air Source Heat Pumps

Panasonic Heating & Cooling Solutions has entered into a new partnership agreement with British Gas, to provide servicing and maintenance for Panasonic Aquarea Air Source Heat Pumps installed across the UK. This collaboration ensures homeowners benefit from British Gas' network of qualified, experienced engineers trained to keep Aquarea heat pumps running efficiently and reliably for households nationwide. With decades of experience in heating homes in the UK, Panasonic and British Gas combine their expertise, earning the trust of millions of homeowners.

British Gas engineers have completed comprehensive, hands-on training, equipping them with the skills necessary for maintenance, diagnostics, and repairs of the Panasonic Aquarea Heat Pumps. These engineers are dedicated to ensuring systems operate efficiently, enabling homeowners to reduce energy costs while also enhancing comfort within their homes.

www.aircon.panasonic.eu.

(L-R) Europe CEO Hiroshi Komatsubara and Europe Managing Director Enrique Vilamitjana both of Panasonic Heating & Cooling Solutions and Chief Commercial Officer Alex Marples; British Gas Director, Home Solutions David Robertson

Panasonic forms capital and business alliance with tado° to drive energy-efficient heating in Europe

Panasonic Corporation's Heating & Ventilation A/C Company has become the first heating equipment manufacturer to form a capital and business alliance with tado°. Through a €30 million equity investment, Panasonic will strengthen its collaboration with tado°. Panasonic will also take a seat on tado°'s board, deepening operational collaboration to drive greater synergies and accelerate innovation.

Panasonic and tado° have committed to addressing the specific needs of the European market, where sustainability and energy efficiency are increasingly prioritised. With the strict environmental regulations in place, this partnership is well-positioned to provide European customers with advanced solutions that meet their heating needs while minimising their carbon footprint.

www.aircon.panasonic.eu.

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Swedish CEO of ESBE opens UK business's new premises in Rossendale

Senior staff from the Swedish parent company of ESBE Ltd., joined the hydronics specialist's leading UK retailers and installers to mark the official opening of its striking new headquarters, located in Lancashire's industrial heartland at Rossendale.

ESBE Ltd.'s newly appointed MD, **Darren Myers** and Technical Manager, **Nigel Raper** welcomed ESBE AB's Chief Executive Officer, **Peter Cerny** along with **Jorgen Thelin**, the manufacturer's Sales Director.

Key product areas ESBE will be targeting during the coming year are VRGs to support the heat pump market, linear and control valves for commercial applications, circulation units to reduce labour and also consistently supporting the OEMs which the company and its distributors deal with.

https://esbe.eu/uk

Peter Cerny opening the new headquarters at Rossendale

About Blygold

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

What Are Heat Pumps?

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

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

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

Advantages of Heat Pumps

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

Blygold coatings can help with...

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

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