Project case study: Bristol Heat Pump Ready

Theme: High-density deployment of heat pumps

Heat Pump Ready: This project was part of Heat Pump Ready Stream 1, a UK government funded programme designed to test innovative methodologies for achieving high density deployment of heat pumps in homes. Further details on Stream 1, including scope and eligibility are available here: Heat Pump Ready Programme: Stream 1, Phase 2 - GOV.UK

Project name: Bristol Heat Pump Ready

Location: Westbury-on-Trym, Bristol

Lead organisation: Bristol City Council

Partner organisations: Centre for Sustainable Energy, The Green Register

Key sub-contractors: Buro Happold, Veritherm, Build Test Solutions, Bristol Energy Network, Sustainable Westbury-on-Trym

Funding:

Budget: £2,925,450

Amount spent: £1,272,291

Dates active:

Phase 1 (feasibility): July 2022 - December 2022.

Phase 2 (mobilisation): March 2023 - December 2023. See feasibility report here.

1. The project at a glance: Bristol Heat Pump Ready

Where?

- The Bristol Heat Pump Ready project targeted an area of 802 homes in Westbury-on-Trym, Bristol.
- This area was chosen due to its relatively affluent population, electrical demand headroom on the primary substation, multiple electricity transformer feeder substations and a high proportion of buildings with an Energy Performance Certificates (EPC) rating of C, which were assumed not to require extensive retrofit before installing a heat pump (i.e., not requiring significant upgrades to the heat emitters or building fabric). These factors allowed properties in this area to be considered "ready" for a heat pump

Who?

- The consortium was led by Bristol City Council in the mobilisation phase, with key roles delivered by the Centre for Sustainable Energy (CSE) and The Green Register (TGR). Sub-contractors included Buro Happold, Veritherm and Build Test Solutions, Sustainable Westbury-on-Trym (SusWot) and Bristol Energy Network.

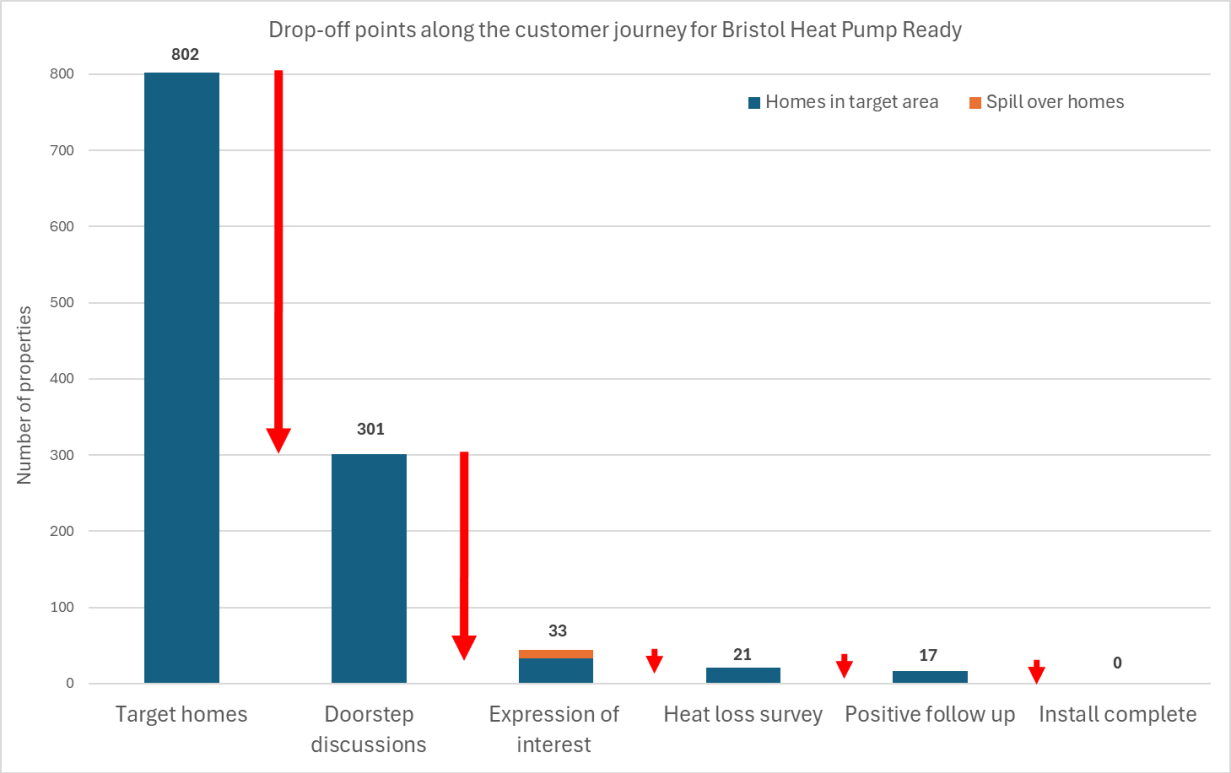
What?

- The customer value proposition was focused on a high-quality, paid-for home energy survey that cost homeowners £100, establishing their vested interest in the process. By measuring (rather than estimating) heat loss, identifying areas for improvement, and thus correctly sizing the required heat pump system (almost always specifying a smaller unit than may have originally been considered), the aim was to reduce the capital cost of the system and improve running costs.
- A combination of in-person and digital marketing was deployed to engage customers, and a focus on working with and training local installers helped build the supply chain in Bristol.

Results

- In total, 47 households formally expressed an interest in the project, 21 home surveys were carried out, but no homes proceeded to a heat pump quotation, and no heat pump installations occurred under the project, as shown in Figure 1. The up-front cost of the whole heat pump system was cited as the primary reason homeowners did not progress.
- The project generated substantial learnings, for example on methods for home energy surveys, digital tools, supply chain training and optimising heat pump installations etc. These learnings have been used in the design of subsequent projects by the project partners.

Figure 1: Resident drop-off points along the BHPR customer journey



1.1. Overview of mobilisation activities

The key activities funded during the mobilisation phase for the Bristol Heat Pump Ready project included:

- **Identifying households that would not require significant upgrades to heat emitters or the building fabric in order to install a heat pump** e.g., through spatial mapping and data visualisation tools, building performance data and socioeconomic data.
- **Developing a tailored, socio-economically sensitive engagement strategy** that addressed the specific needs and concerns of residents in the area.
- **Raising awareness of the project and heat pumps** through indirect engagement e.g., social media marketing.
- **Customer recruitment via targeted engagement activities**, e.g., door knocking, leaflets, and stalls at community events.
- **In-depth heat measurement surveys in homes** e.g., Veritherm innovative heat measurement survey for property heat loss calculations and heat pump sizing, at £100 cost to consumer
- **Developing a customer relationship management tool** e.g. Veritherm's HEAT tool
- **Supply chain engagement and training** e.g., social events, WhatsApp group, training sessions
- **Installer recruitment to BHPR Supply Chain** e.g., companies interested in joining the supply chain were quality assessed using set criteria and signing a service level agreement (SLA).

- **Attending collaboration, learning and dissemination events across the Heat Pump Ready programme,** including quarterly learning workshops, the annual Heat Pump Ready conference, and external industry events.
- **Project management**, e.g. consortium engagement, KPI tracking, milestone reporting, monthly reporting meeting with the project monitoring officer and collaboration and learning manager, collating evidence for funding claims, and producing a final project report.

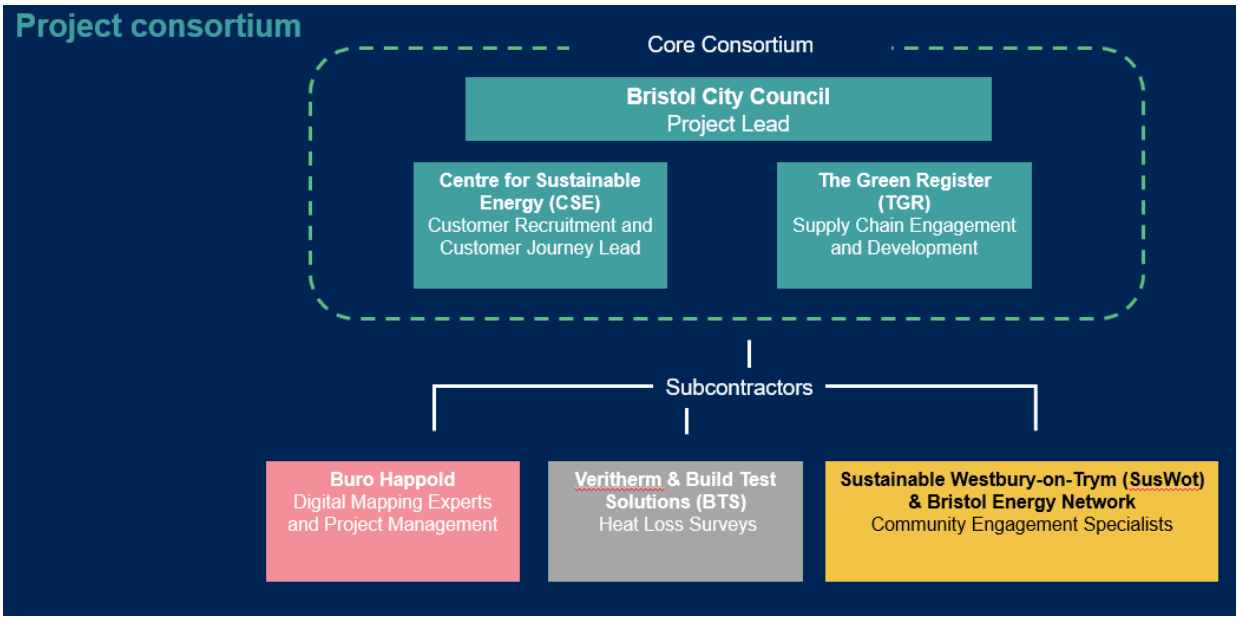
1.2. Delivery partners and roles

Table 1: Summary of delivery partners, key stakeholders and their roles

Delivery partner	Roles
Bristol City Council (BCC)	**Project lead** • Consortium development and lead partner • Project management and reporting • Local authority with existing governance processes, stakeholder networks, and a trusted, recognisable brand • Proposition development, ensured joined-up thinking with Council aims • Advised on target area selection
Centre for Sustainable Energy (CSE)	**An independent domestic energy and community engagement charity** • Community engagement officers led awareness-raising in the community, including door-knocking • Contributed to developing the value proposition, recruitment strategy and local project communications • Created videos and articles on a dedicated page on their website • Local insights on communities, housing and energy
The Green Register (TGR)	**Local membership organisation for sustainable construction companies** • Local supply chain development • Training for heat pump installers, retrofit assessors and retailers within Bristol
Buro Happold (BH)	**Experts in digital mapping and project management, with a Bristol base** • Developed a digital twin model for building-level modelling • Digital planning and identified 'heat pump ready' properties and neighbourhoods • Project management and reporting

Veritherm & Build Test Solutions (BTS)	**SME specialists in the thermal performance of buildings** • Carried out heat loss surveys • Developed a Home Energy Advice Tool (HEAT) • Trained surveyors
Sustainable Westbury-on-Trym (SusWoT) & Bristol Energy Network (BEN)	**Local, established community energy groups** • Carried out community engagement, energy awareness and training for households • Gave local insights on communities and energy use
Key stakeholders	**Role**
National Grid Energy Distribution (NGED)	**Local distribution network operator (DNO)** • Provided data on substation connections • Provided local knowledge of the energy system
Heat pump installers	**Local supply chain, including PHC Parts as a key contributor** • Provided heat pump knowledge and programme co-design • Local knowledge of communities, housing and heating systems, representing a trusted group of locally used tradespeople
Project board	**Senior representatives** • Senior representatives from BCC, BH, CSE and TGR sat on the board and met to provide oversight and quality assurance

Figure 1: Consortium organisation chart



1.3. Location and target homes

Buro Happold conducted housing stock modelling and analysis across the west of Bristol during the feasibility stage, compiling the results into a digital twin platform. This analysis identified seven target areas within Westbury-on-Trym in Bristol as the most suitable for high-density heat pump deployment. The consortium ultimately selected target areas of 802 homes (with a target of 208 installs) in three discrete clusters around the University of Bristol. These were chosen because:

- The EPCs and other data sources for houses in the areas suggested that most homes did not require significant improvements to their thermal fabric, with a high proportion of C ratings.
- Initial data from National Grid Electricity Distribution (NGED, previously Western Power Distribution at the start of the project) suggested sufficient headroom on the network to accommodate heat pumps at high density.
- Garden size and floor area of properties were suitable for an external heat pump.
- Existing solar PV installations in the area indicated awareness and support for low-carbon technologies.
- Socioeconomic data from MOSAIC Public Sector Consumer Profiling analysis showed a high proportion of residents in the area were identified as 'able to pay', with a high level of education and high densities of engineers, finance professionals, academics and University staff. This initial profiling was supplemented by further consumer segmentation analysis, building on the innovative work undertaken in developing the Britain Talks Climate Toolkit (a collaboration between CSE and Climate Outreach).
- Over 90% of properties were heated by gas at the time of the analysis (this was a pre-requisite for progression to the delivery phase of the programme).

The project area was divided into four target groups (see Figure 2, Table 2)[1]. The three main groups contained 11 substations and numerous roads. BHPR continued targeting all homes fed by the 11 substations throughout the project, later incorporating a fourth group around one substation (Downscote) to increase the number of households included in the target area.

Figure 2: Map of the target area in Westbury-on-Trym showing LV substations in the four target groups

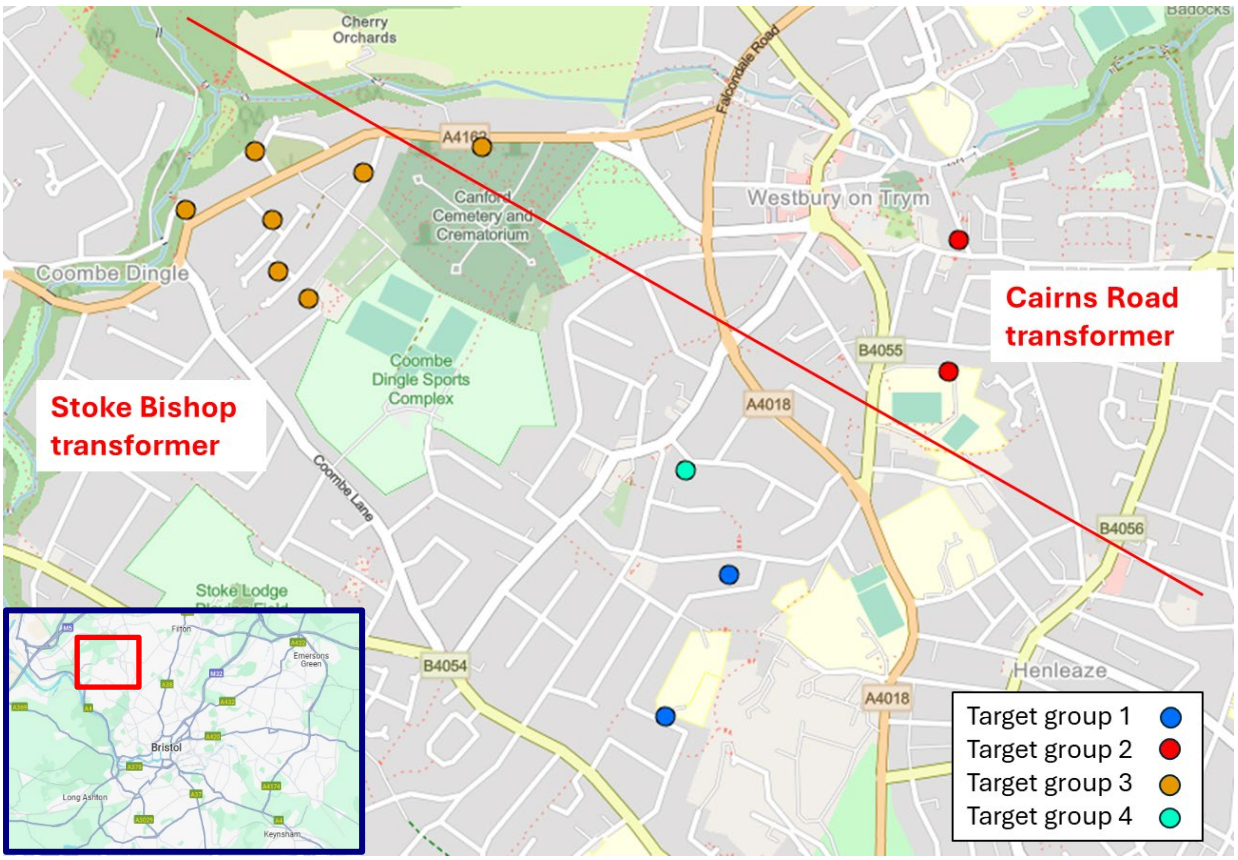


Table 2: Target group summary table

Target group	Total number of homes in target group	Number of homes targeted (25%)	Total number of homes with doorstep discussions	% of homes with doorstep discussions	Surveys completed	Surveys as % of total
1	140	36	99	71%	8	6%
2	216	56	98	45%	4	2%
3	313	82	104	33%	7	2%

[1] Refer to <INSERT DOCUMENT TITLE> for a definition of the target groups and more details on eligibility criteria.

4	133	34	0	0%	2	2%
Total	**802**	**208**	**301**	**38%**	**21**	**3%**

1.4. The value proposition for customers

The project planned to deliver its objectives through two means:

- Streamlining an 'end-to-end offering', improving relationships across the supply chain and the customer journey
- Partnering with local community representatives to create a consumer-centred offering.

The key value propositions for customers were:

1. Consumer-centred approach

Providing a personalised and tailored heat pump journey by having a strong understanding of household needs and using this as a basis for designing and developing heat pump systems. By increasing householders' knowledge and understanding of their property and heat systems and providing direct access to support, the approach directly targeted pre-existing demand-side barriers to heat pump uptake around awareness and information access. A skilled home retrofit assessor provided post-survey advice and guidance, acting as a constant contact for the homeowner throughout the survey and installation stages.

2. High-quality home survey

BHPR's proposition was based on a comprehensive, high-quality home survey to understand the property, find the right sized air source heat pump, and suggest other energy-efficient improvements to lower energy bills. The cost to consumers was £100, with an estimated value of £1,000, and included either an overnight heat loss test using heaters and sensors or installing sensors to record heat loss over three weeks. The comprehensive nature of the survey aimed to correctly size the heat pump for the property, reducing both the upfront capital cost and ongoing running costs. A leaflet explaining the survey process from Veritherm, in conjunction with BTS and Elmhurst Energy, was sent to homeowners, see Figure 3.

3. Improving lifetime value for money of heat pumps

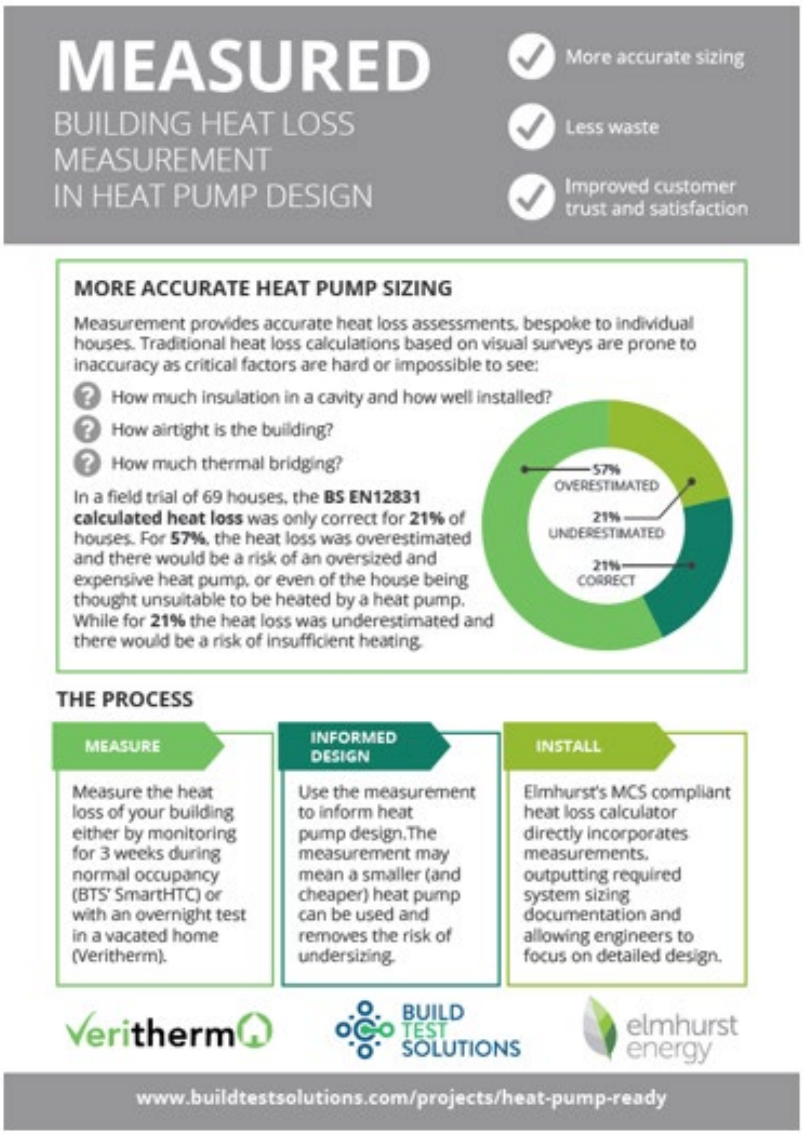
Engaging with the supply chain to match high-quality installers to consumers aimed to reduce the length of the process and deliver improved running costs. BHPR also intended to use the latest techniques in surveying and monitoring heat transfer to optimise system designs, intending to ensure value for money for customers. Financial support in the form of a low-interest loan could be accessed from Lendology, subject to criteria. BCC had an existing relationship with Lendology and arranged to offer a low-interest loan of up to £20,000 to homeowners planning to install a heat pump through BHPR, with a fixed 4% interest rate (representative 4.2% APR). If a loan was not required, homeowners could pay outright with funding equivalent to the BUS grant, £7500, available from Heat Pump Ready.

4. Pre-vetted installers were ready to carry out the survey, design and heat pump install

A pre-vetted installer from TGR's Supplier Hub then provided an outline quotation and system design based on the household information pack received, with a discount of up to 30% from leading heat

pump manufacturers. BHPR is supplier-agnostic, so the choice of the heat pump was up to the installer and the customer.

Figure 2: Leaflet for the Measured building heat loss measurement survey



1.5. Approach to customer engagement and recruitment

The CSE worked with local community partners to run an extensive programme of engagement activities, tailored to the local community of Westbury-on-Trym. From initial discussions with homeowners and the demographic profiling through MOSAIC, it was known that the residents included a higher proportion of early retirees and those who work/worked in technical employment. Coupled with the presence of the Bristol Energy Network and SusWOT, and visibility of PV arrays on local houses, a high base level of knowledge on sustainable technologies was assumed. The engagement activities helped to increase knowledge about low-carbon heating solutions and heat pump technology, raise awareness of the project and gather interested homeowners.

Targeted face-to-face engagement

A minimum of three points of contact were made with households deemed eligible. This included an initial mailout of hand-delivered letters, a five-week engagement push with overlapping two-week cycles of pre-leafletting and one round of door-knocking, and a follow-up round of door-knocking to revisit households not engaged in the first round. To summarise:

- Leaflets or letters were addressed to all 802 eligible households within Westbury-on-Trym, see Figure 4.
- The initial hand-delivered letter explained the proposition, provided links to further information, and clearly displayed all partners involved in BHPR.
- SusWoT and CSE knocked on doors from house to house, speaking to residents about heat pumps and Bristol Heat Pump Ready's offer, and answering any questions. The first stage of door-knocking took place immediately following the targeted mailout and as part of the two-week cycle of pre-leafletting and door-knocking. This stage focused on weekdays between 10:00 and 17:00.
- The project team participated in external events within the community, including workshops led by Bristol Energy Network (BEN) and Sustainable Westbury-on-Trym (SusWoT), drop-ins at the local pub and community events including the Westbury-on-Trym Community Fair and the Village Show, see Figure 5.

Indirect digital engagement included:

- Promoting relevant information through CSE's website, see Figure 6.
- Developing and publishing a range of open-access home energy resources, including videos on CSE's website.
- Social media adverts and sponsored online advertising directed to those in the local area.

Figure 3: Hand-delivered letter to all residents in the target area

Bristol Heat Pump Ready

Supporting you through every step of your heat pump journey
BHPR@cse.org.uk

Bristol Heat Pump Ready is managed by the Centre for Sustainable Energy (Charity 298740, Company 02219633)

St James Court
St James Parade
Bristol BS1 3LH

Join Bristol City Council's innovative Heat Pump Ready scheme and find out if a heat pump is the right choice for you!

As a householder in Westbury-on-Trym you could be eligible for special funding and exclusive discounts to make the installation of a heat pump more affordable, as well as a comprehensive package of support and guidance to help you make an informed decision and confidently choose the most appropriate next steps for your home.

Heat pumps are significantly more efficient than traditional boilers not least because they use electricity, a greener and cleaner alternative to gas. They provide comfortable, reliable heating and will reduce your home's carbon footprint. Heat pumps are cost-effective with fewer maintenance requirements and could also help you save money on energy bills.

If you're considering switching to a heat pump but not sure where to start, the team at the Centre for Sustainable Energy (CSE), a trusted local energy advice charity and lead partner on the Bristol Heat Pump Ready scheme, is here to help.

Through the Bristol Heat Pump Ready scheme, you can access:

- **Personalised consultation:** During each step of the journey a skilled home retrofit assessor from CSE will guide you through the process, taking time to understand your unique household situation and answer any questions about your home or the Bristol Heat Pump Ready scheme. As you progress, we will check in at key points to ensure you have all the necessary details to make a well-informed decision about your next steps.
- **Comprehensive home surveys:** Find out where your home loses and retains heat with a home heating survey from Veritherm, a trusted local company. You'll get a comprehensive home survey for just £100 to find the right-sized heat pump for your house. This prevents the problems of having a heat pump that's too small and doesn't heat properly, or one that's too big and costs more than necessary. Unlike traditional calculations, this survey uses sensors in your home for better accuracy. It also suggests other energy-efficient improvements to lower your bills and is yours to keep whether you choose to install a heat pump or not.
- **Post-survey advice and guidance:** Once you have had a home heating survey, we'll advise on additional works that may need to be carried out ahead of a heat pump installation and help you plan your next steps.
- **Trusted installers:** Gain access to a directory of vetted local heat pump installers supported by independent sustainable construction experts, The Green Register, ensuring you work with reputable professionals committed to delivering high-quality results.
- **Discounted heat pumps:** Access discounts of up to 30% from leading heat pump manufacturers to reduce the cost of installation.

Project partners

Supported by

Bristol Heat Pump Ready

Supporting you through every step of your heat pump journey
BHPR@cse.org.uk

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St James Court
St James Parade
Bristol BS1 3LH

- **Financial Support:** You may be eligible for a £5,000 contribution towards the installation of your heat pump. Subject to criteria, householders may also be able to access low interest loans from Lendology to help spread the cost of financing your new heat pump.
- **Ongoing Monitoring and Support:** We'll continue to support you even after the installation, ensuring your heat pump works well and heats your home efficiently.

Ready to take the first step towards transforming your home and reducing your emissions? It's straightforward – just complete the Bristol Heat Pump Ready expression of interest form at www.cse.org.uk/BHPR or scan the QR code below.

Go to www.cse.org.uk/BHPR to express your interest. You can use this QR code to access the web page on your smart device.

Please note: the expression of interest form is not a legally binding agreement and completing it does not imply a commitment to installing a heat pump. Information gathered at this stage will be used to verify your eligibility and initiate a no-obligation phone call with one of CSE's dedicated home retrofit assessors through which they can outline your possible next steps should you wish to proceed.

Don't miss out on this incredible opportunity to transform your home, reduce your carbon emissions, and potentially lower your bills too. Join Bristol Heat Pump Ready today!

Yours sincerely

Alex North

Alex North

Centre for Sustainable Energy
On behalf of Bristol Heat Pump Ready

Project partners

Supported by

Figure 5: Posters advertising drop-in sessions and opportunities for face-to-face engagement

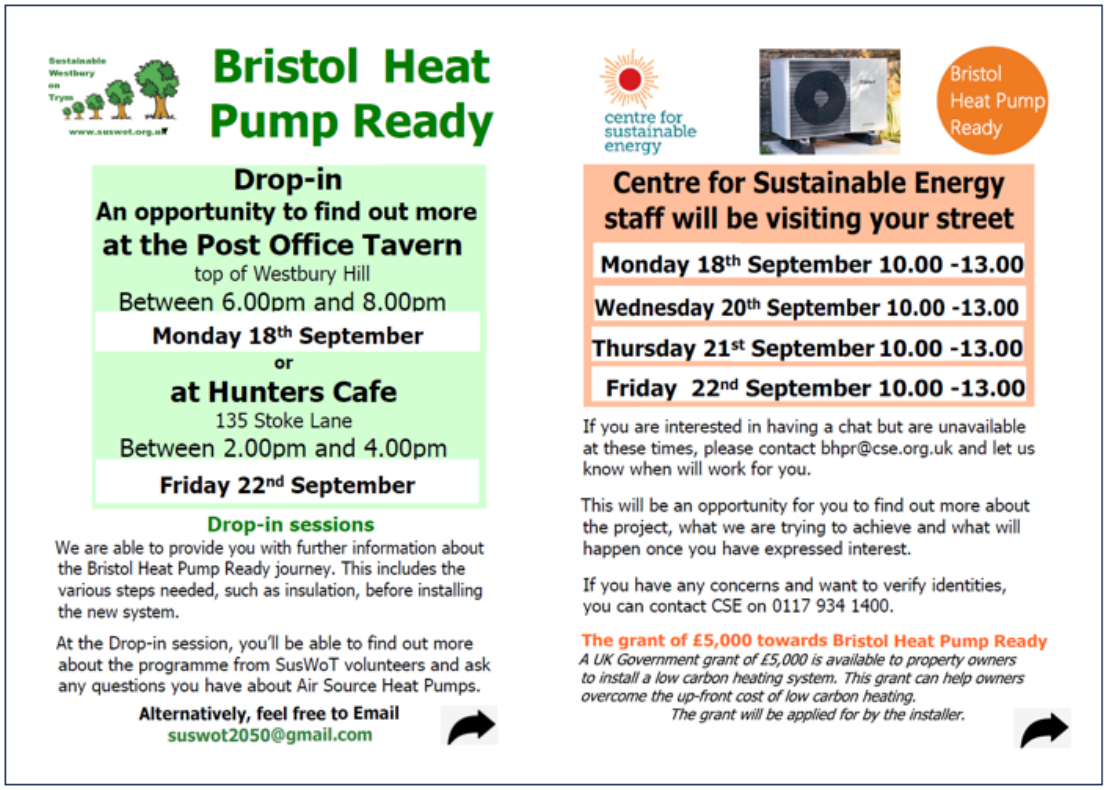
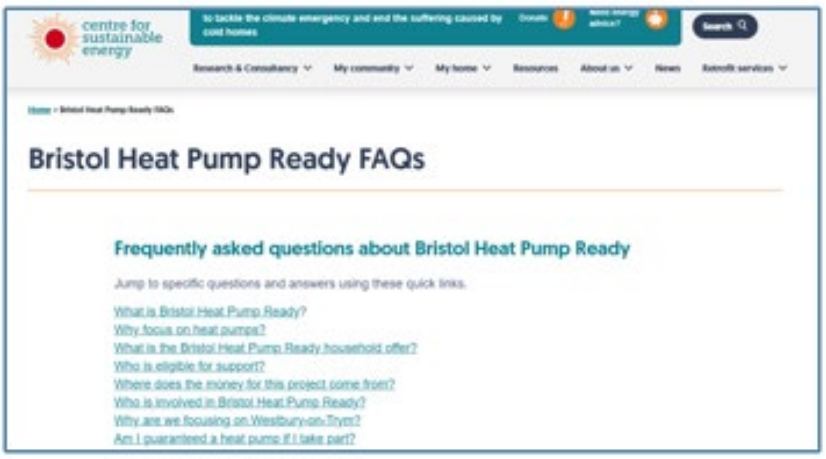
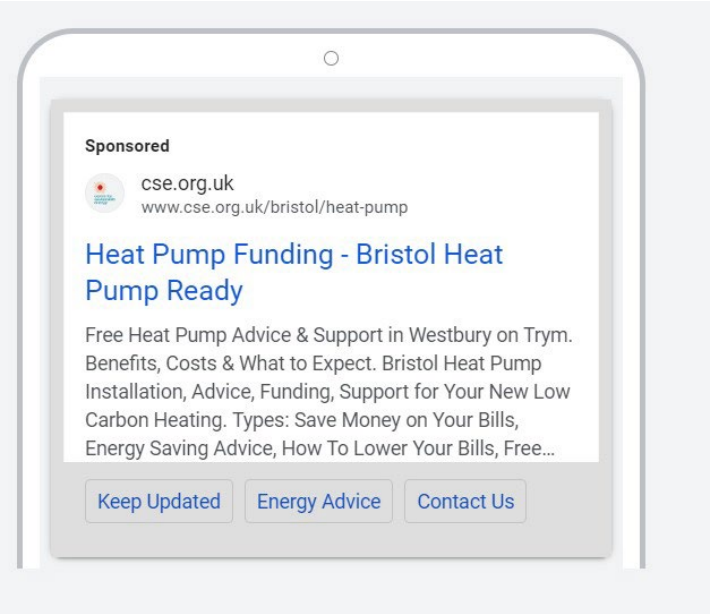
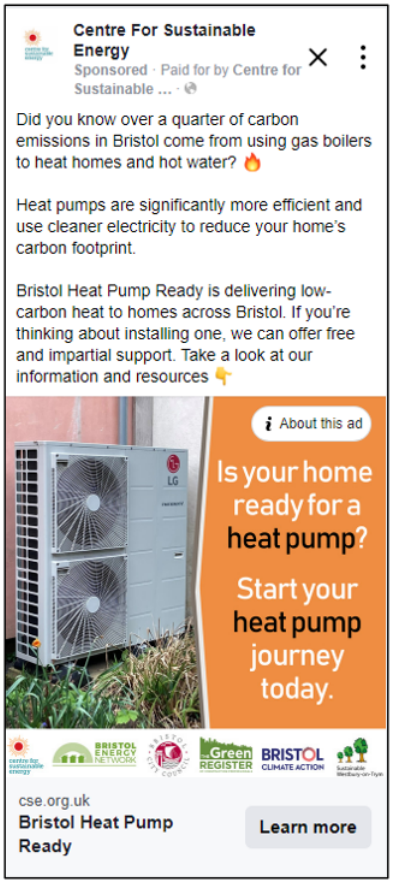
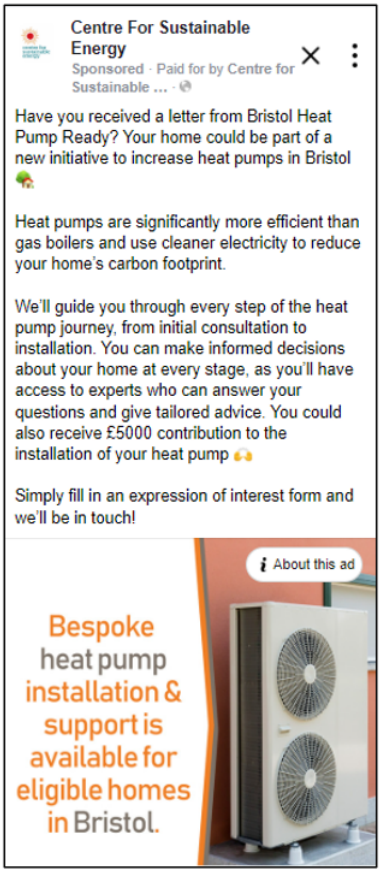


Figure 6: Project page on CSE's website and social media adverts





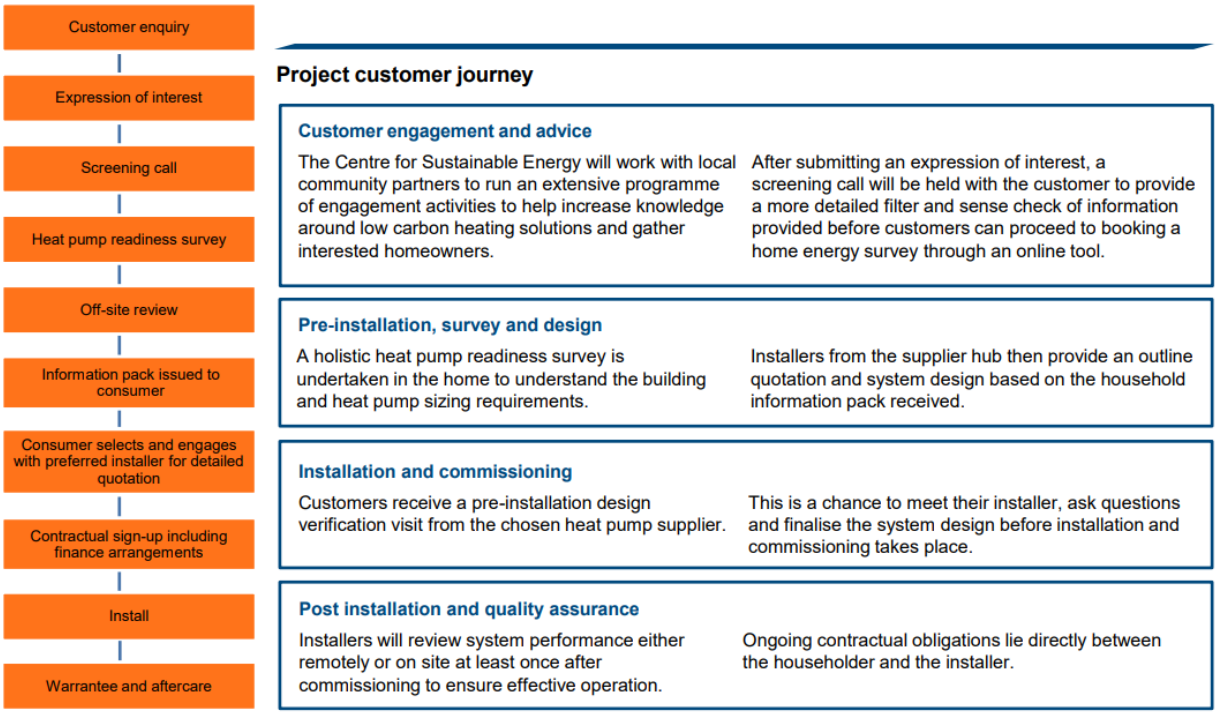




1.6. Proposed customer journey

The BHPR consortium developed a detailed customer journey to guide customers from enquiring about heat pumps through to installation and receiving aftercare support, as shown in Figure 7.

Figure 7: Project customer journey



Customer engagement and advice

The in-person engagement activities raised awareness for the project and provided the pathway for initial expressions of interest and sign-ups for the home surveys. This stage was planned to start at the end of summer, with leaflets, letters and door knocking taking place over a period of 10 weeks.

Pre-installation, survey and design

CSE collected customer contact information and held a screening call with customers to ensure all necessary information was provided before customers booked a home energy survey.

Veritherm and BTS then conducted the home energy survey, with customers choosing the overnight over-heating test or using data loggers to monitor their property for three weeks. Survey results were collated into a report and sent to the homeowner, with CSE providing a call to discuss the home survey.

If the homeowner requested, installers from the supplier hub would provide an outline quotation and system design based on the home survey information pack. Time from booking in the initial screening call, booking in and undertaking the survey, and the customer receiving an initial quote was anticipated to take 6 weeks.

Installation and commissioning

If agreed, the homeowner arranged a date for a pre-installation design verification visit with their chosen supplier. Heat pump installation and any associated works were then carried out. The time for this stage varied by works required, but would be estimated to take one week to complete.

Post-installation and quality assurance

After installation, ongoing monitoring and support were planned for the first year, using smart meters to verify and check the heat pump's performance. An MCS audit was also available through the project.

2. Project outcomes

2.1. Awareness of the project, surveys completed and heat pumps installed

Expressions of interest were received from 33 homeowners in the target area, see Table 3. In total, 21 home surveys were carried out, but no homes proceeded to a formal heat pump quotation, and no heat pump installations occurred under the project.

The total expressions of interest across the four target groups were as follows:

Table 3: Expressions of interest across target group areas

Target group	Number of connected properties	Total number of EOIs received	EOIs received as % of total properties
1	140	14	10%
2	216	8	4%
3	313	11	4%
4	133	2	2%
Total	**802**	**33**	**4%**

Another 14 expressions of interest were also received for properties outside of the target groups.

2.2. Barriers faced through consumer recruitment

Interviews with the project partners and key stakeholders suggested that the following themes could have contributed to the lack of uptake of the BHPR proposition, alongside factors outside the control of the project, such as energy prices and costs of heat pump installations:

- **Customers were confused by the initial offer:** there was too much information for households in promotional materials. Keeping the offer simple and clearly explaining the costs for the survey and the install up front would have been more useful. There was a lack of clarity on how much householders would have to pay for the survey, which was advertised as worth £1,000 but only charging £100.
- The **home survey methodology was very complex** and one method involved homeowners moving out overnight (for the full Veritherm heat loss test). Although it was accurate and provided benefits and cost savings for the installation, it was difficult to get homeowners to sign up, and had to be undertaken from October onwards when the weather was cooler. There were also internal admin delays in actioning the surveys due to a change in the CRM system. Of the 21 homes that had surveys, 8 had an overnight survey, with 13 homes having the three week survey.
- **Households who had heat pumps installed privately prior to the BHPR project, and those who had signed up early to the survey didn't have a good experience of the heat pump journey**, so they weren't comfortable being used as examples or champions to encourage others.

- There was a reference to **homeowners assuming the leaflets were spam**. Mail addressed to homeowners from the Council would be seen as more legitimate.
- Because of the Stream 1 timescales, initial customer engagement and **awareness-raising took place over the summer**, when households were not thinking about their heating.
- **The decision-making process for customers was found to take longer than the timescale originally envisaged by the project at the start of the project,** with additional time required at each stage (expressing an interest, having a survey and accepting a quote for a heat pump installation).

2.3. What other challenges did the project encounter?

The project partners noted that there were additional challenges in the following areas:

- **Data from the DNO**: a database showing which houses are connected to which transformer was unavailable from NGED when the planning team required it. The lack of accurate data from the DNO delayed targeting homes with additional network capacity. This turned out to be less important where there was known headroom in the area, at the substation level. If the project partners were to do a similar project again, they wouldn't spend so long obtaining data from the DNO for the wider area when this can be carried out house by house later for those interested in a heat pump.
- **Aligning customer relationship management systems** across project partners: the project planned for customer relationships to be managed through Veritherm's Home Energy Advice Tool (HEAT), which was eventually used to upgrade CSE's CRM system. HEAT was intended to provide a comprehensive solution for managing client relationships, allowing businesses to have a centralised repository for all client-related data. It was to incorporate booking functionalities within the CRM to provide a more convenient way for clients to schedule appointments than on CSE's CRM alone. This would eliminate the need for third-party booking systems to simplify the overall customer experience. In practice, data-sharing arrangements and system interoperability challenges hindered progress.

2.4. Which aspects of the project worked well?

Interviews with the project partners suggest several project elements worked well despite the lack of progress toward heat pump installations:

- **A detailed heat loss survey provided accurate calculations**, enabling the sizing of a smaller heat pump rather than standard assessments that use generic heat loss values. A smaller heat pump is likely to have been cheaper to buy and to run. The more accurate survey came at the expense of disruption to the customer.
- **The creation of an installer network** which facilitated training and provided a joined-up approach to working together and sharing teachings. Installers could be chosen from a curated supplier hub, reassuring homeowners that they had competent, quality installers. It also built the supply chain and brought installers together for training, sharing experience, upskilling, and using bulk purchasing.

- **Separating the survey from the installation** reduced the pressure on some installers to quote for works that were not certain to go ahead. Other installers indicated they would still want to visit the site to inform their quotes.
- **Using digital planning tools** to identify heat pump ready homes and **proactively targeting consumers** with focused community engagement alongside local community groups.

2.5. What lessons would the project partners pass on to other organisations looking to deliver neighbourhood-based approaches to high-density heat pump deployment?

- **Ensure that data-sharing agreements are in place** with all key project partners and contractors in good time to allow them to contribute fully to all aspects of the planning and implementation.
- **Network data from the DNO** can be requested on an individual property as and when required for those interested in a heat pump; it is not necessary to request data for the whole area prior to starting a whole area implementation.
- **Raise awareness within the local community early on** to increase knowledge of the benefits of heat pumps and build interest in the proposition.
- **Target engagement activity** specifically to the defined audience segment.
- **Keep the offer simple and consistent**. Clearly explain the offer and the process, tailor the information to the audience.
- **Simplify the survey methodology,** to make the process as easy as possible for consumers.
- **Engage with an electricity supplier** to link to a heat pump-specific tariff to lower running costs.
- **Use one key point of contact for households** to streamline the customer journey.
- **Work with local organisations with local knowledge**, including the local authority, a customer engagement coordinator, a local supply chain and an existing local environmental group.

3. Next steps

Since finishing their Heat Pump Ready (HPR) project, consortium members have progressed various strands of the HPR project.

Bristol City Council (BCC) have continued to work on projects to install heat pumps across the city:

- The Optiheat project reviewed existing heat pump installations around Bristol, working with the University of Bristol and the Microgeneration Certification Scheme (MCS). MCS and BCC aimed to carry out 100 energy audits in homes with heat pumps, to highlight improvements and resolve poor-quality installations. This work was originally scheduled to review the heat pump installations planned under HPR.

- BCC have kicked off their Innovate UK Net Zero Living Thriving Places programme as a pathfinder project, based around the digital tools used in HPR and other project learnings. This is a programme of engagement with citizens in three neighbourhoods to identify net zero projects, infrastructure and data requirements and financing mechanisms, and to develop local supply chain skills to meet local net zero needs.
- A project with the University of Bristol on monitoring heat pump performance, looking at the difference between onboard heat pump unit monitoring and separate metering and monitoring. This work was originally planned for the heat pumps installed under HPR.
- BCC presented to the West of England Combined Authorities (WECA) group to share learnings from the HPR project with other local authorities in the region. WECA would be interested in a group purchasing scheme and sharing learnings from HPR. BCC has disseminated what works and what doesn't to those groups. BCC are pleased that there is recognition of the work of HPR.

Retrofit West, run by the **Centre for Sustainable Energy** (CSE)**,** took over the management of households interested in a heat pump installation through Bristol HPR, ensuring clients had the option to receive ongoing support.

- Having learnt from the Bristol HPR approach, Retrofit West is now changing its existing support offer to provide a wider home energy survey in addition to advising specifically on heat pumps. CSE has adopted the Build Test Solutions heat loss survey approach[2], which was used in the HPR project, and carried out testing over winter. Data loggers are installed in homes for 3 weeks and are then collected, so this task can be conducted by CSE surveyors instead of specialist surveyors.
- Bath & West Community Energy are in talks with Retrofit West to use the same heat loss survey method.
- Retrofit West is using the supply chain onboarding process with The Green Register, which was developed through the HPR project.

The Green Register (TGR) has continued to build on its Installer Hub idea from the HPR project, to bring heat pump installers together and support each other through mentoring.

- Ongoing training for the supply chain, including on heat loss calculations and TGR's scheduled training to suit the individual heat pump installer's learning pathway.
- TGR has worked to integrate Bristol HPR supply chain members into other local retrofit schemes.
- TGR is interested in providing a pathway into delivery for smaller installation companies and sole traders, as they can miss out on the larger programmes run by councils and larger landlords or property developers.
- Useful learnings about building a community and mentoring have enabled TGR to upskill more junior members.

[2] In their own Heat Pump Ready Stream 2 project, Build Test Solutions proved that using measured heat loss was more accurate than traditional surveys that rely on estimations.