

Bristol fuel poverty action plan 2020 –2030

A partnership approach to end cold homes in Bristol

Logos of partners at bottom of front page: Bristol City Council, CSE, Bristol Energy.

Draft for review by Health and Wellbeing and Environmental Sustainability boards

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Foreword (inside page)

[by Mayor ?]

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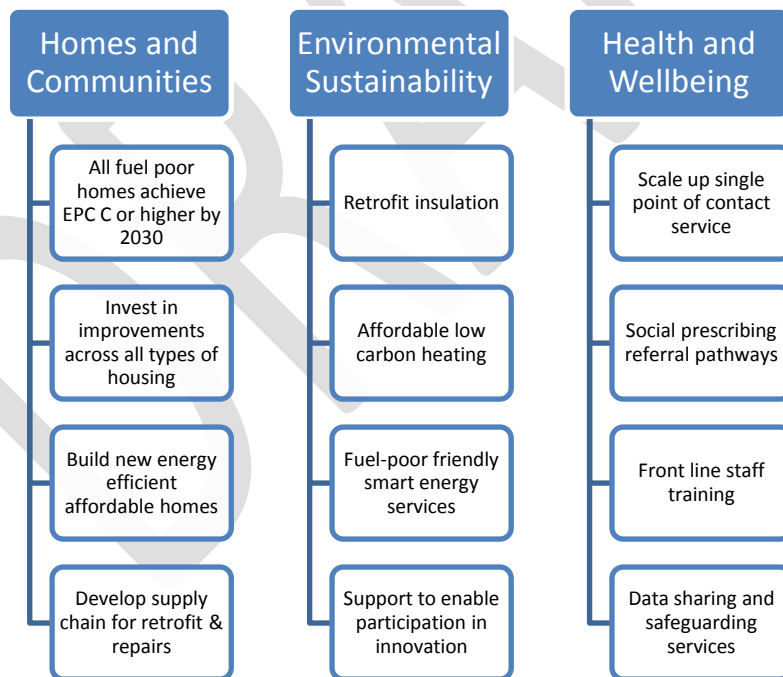
Executive Summary

It is the ambition of Bristol, as set out in the One City Plan, that by 2030, nobody in Bristol will suffer from a cold home due to fuel poverty or their inability to have the necessary insulation and heating. This means that all fuel poor homes will be improved to an EPC C or higher. It will require investment of over £20 million to install insulation, improved efficiency and low carbon heating measures and renewable energy measures in fuel poor homes across Bristol. Specialist health and housing advice and referral pathways, integrated with income maximisation support, will also contribute to wider health and wellbeing benefits, in line with the One City goal to embed health and wellbeing in all key policy development. The fuel poverty action plan fits with the One City Climate Strategy – it includes actions to tackle fuel poverty that will help achieve affordable warmth and improved health alongside carbon emission reductions.

The production of this action plan was led by the voluntary No Cold Homes steering group. An event hosted at City Hall in November 2019 brought together partners to identify the actions needed to achieve this goal, with further stakeholders helping to clarify the scale of action required.

Leadership and co-ordinated action will be needed to deliver this plan. The Health and Wellbeing Board, the Homes and Communities Board and the Environmental Sustainability Board each have an oversight role for sections of the action plan.

Summary of activities overseen by One City boards



1 Introduction/Background

It is the ambition of Bristol, as set out in the One City Plan, that by 2030, nobody in Bristol will suffer from a cold home due to fuel poverty or their inability to have the necessary insulation and heating.

In 2014, the government introduced in legislation a fuel poverty target for England to improve as many fuel poor homes as is reasonably practicable to a minimum energy efficiency rating of Band C, by the end of **2030**.

More than 20,000 homes in Bristol that are currently EPC band D or worse require improving to EPC band C or higher by 2030. The cost to make the necessary retrofit improvements is estimated at over £190 million. This would rise to £220 million if homes improved were retrofitted with low carbon heating measures are retrofitted instead of new gas boilers being installed.

The No Cold Homes steering group is a self-formed group that is committed to driving and co-ordinating action on tackling fuel poverty in Bristol, with active representatives from leading organisations, including Bristol City Council, private and voluntary sector energy organisations, local advice and support providers, clinical commissioning groups, health researchers and representatives from the community energy sector.

1.1 Fuel poverty and cold homes – definition

Fuel poverty is generally understood to refer to the situation where a low income household is struggling to afford their energy costs. Fuel poverty exists where a household lives in a property that is not energy efficient and therefore expensive to keep warm; lives in a home that is much larger than needed; or where they use a more expensive heating fuel. Whilst the official definition of fuel poverty (see below) is based on modelled fuel costs, for many households the high cost of their energy tariff makes it hard for them to afford to keep their home warm. Similarly, even in an energy efficient home, having a broken or outdated heating system will affect a household's ability to keep their home warm affordably. In the UK, space heating accounts for the majority of a household's energy usage. Fuel poor households are also likely to experience other forms of energy deprivation affecting a range of daily activities within the home, including cooking, bathing, cleaning, study, socialising and entertainment.

The official definition of fuel poverty used in England is the Low Income High Costs (LIHC) definition, which defines a household to be in fuel poverty if:

- They have required fuel costs that are above average (the national median level) and;
- Were they to spend that amount they would be left with a residual income below the official fuel poverty line.

The government is consulting on a revised definition, the Low Income Low Energy Efficiency (LILEE). Under this definition, households will be deemed fuel poor if their disposable income (after housing and energy costs) is below the poverty line and they live in a property with an energy efficiency rating of Band D or lower. The energy performance certificate (EPC) rating of a dwelling is used as an indicator of how affordable it is to heat a home. E, F & G rated homes are more difficult to heat and keep warm at an affordable cost, whilst homes that are rated C or above are more cost-effective to

heat. However, EPC ratings can be inaccurate. Also, if the heating system is broken or faulty or not being used, this will not be reflected in the EPC rating.

1.2 The harmful effects of living in a cold home

The experience of fuel poverty and living in a cold home can cause multiple forms of harm to physical health, mental and health and social impacts. The Bristol JSNA Chapter on Fuel Poverty provides a full analysis of the significance of fuel poverty as a public health issue affecting people living in Bristol.

Living in cold and damp housing increases incidence rates for heart attack, stroke, respiratory disease, influenza, falls and injuries and hypothermia, especially in the elderly. It can also cause mental health effects from depression amongst all age groups as well as indirect risks of carbon monoxide poisoning. The World Health Organisation estimates that up to 30% of winter deaths are caused by cold housing. In the 2017/18 winter period, there were an estimated 50,100 excess winter deaths (EWD) in England and Wales.¹

Living in a cold home can also have indirect health effects on educational attainment, employment attainment.

Living in a cold home also has harmful economic and social impacts, including household debt, social isolation, loneliness and poor diet, due to people making trade-offs between whether they heat their home or eat well. Fuel poverty is also associated with harm to health from associated problems of damp and poor internal air quality.

NICE guidelines identify the following groups as at greater risk of harm to health from living in a cold home:

- people with cardiovascular conditions
- people with respiratory conditions (in particular COPD and childhood asthma)
- people with mental health conditions
- people with disabilities
- older people (65 years +)
- young children (under 5)
- pregnant women
- people on a low income
- people who move in and out of homelessness
- people with addictions
- people who have attended hospital due to a fall
- recent immigrants and asylum seekers

1.3 The national context

The government recently consulted on its 2015 Fuel Poverty Strategy for England, which set a target for as many fuel poor homes as is reasonably practicable achieve a minimum energy efficiency rating of Band C, by 2030. The fuel poverty statistics and consultation responses by activists, including

¹ Julia Verne - Understanding and preventing excess winter deaths. Presentation

[CSE](#)'s response, highlight that progress has stalled. The proportion of fuel-poor households rated D is projected to improve to 68% by 2019 – against an interim target for as many as reasonably possible to reach Band E by 2020.

The government's consultation asked whether existing national programmes are sufficient to meet the scale of the fuel poverty challenge and what should be included in a new strategy to meet that challenge. It asked respondents to comment on:

- Updating the current Low Income High Cost (LIHC) fuel poverty metric to Low Income Low Energy Efficiency (LILEE);
- Retaining the current target and interim milestones for the strategy;
- The current guiding principles of the fuel poverty strategy (Worst First, cost effectiveness, vulnerability and a proposed 4th principle on aligning a fuel poverty strategy with current and future Government priorities; and
- Policies and associated commitments to include in an updated strategy.

The Queen's speech in December 2019 confirmed the Conservative Manifesto pledge to invest £9.2 billion in improving energy efficiency within homes, schools and hospitals to help reduce energy bills. The manifesto committed to:

- Keep existing energy price cap legislation
- Invest £6.3bn to improve the energy efficiency of 2.2 million disadvantaged homes, reducing their energy bills by as much as £750 a year, with two schemes:
 - £3.8bn social housing decarbonisation scheme focused on improving insulation in 2 million social homes, reducing energy bills by an average of £160 / year
 - £2.5bn home upgrade grants (HUGs) to replace boilers, provide insulation and in some cases replace energy systems wholesale. 200,000 homes will be upgraded, providing an average annual saving of £750 a year. It will cover costs up to £12,000 and apply to fuel poor households, both private and social, with poor energy efficiency.

There was no mention of energy efficiency programmes in the recent budget. Further announcements on planned action to tackle fuel poverty will form part of the Government's approach in the build-up to COP 26 in Glasgow in November. ²These are understood to include:³

- an updated fuel poverty strategy for England and Energy White paper;
- £6.3 billion-worth of upgrade for those in fuel-poor homes;
- a consultation on raising minimum energy performance standards in private rented homes;
- action to improve the warm home discount and Energy Company Obligation.

Bristol City Council and other partners must work to ensure that fuel poor households in Bristol get their full share of this investment.

² [https://hansard.parliament.uk/Lords/2020-02-07/debates/45023680-92D1-4EF1-AC56-20B83289A51C/DomesticPremises\(EnergyPerformance\)Bill\(HL\)](https://hansard.parliament.uk/Lords/2020-02-07/debates/45023680-92D1-4EF1-AC56-20B83289A51C/DomesticPremises(EnergyPerformance)Bill(HL)).

³ The above information was referenced in National Energy Action (NEA) Budget Submission 2020

1.4 Bristol-specific challenges to addressing fuel poverty

Many of the challenges for tackling fuel poverty across Bristol are common to those in the rest of the country. The Bristol JSNA Chapter on Fuel Poverty compared the situation in Bristol with that in other core cities. Rates of fuel poverty and excess winter deaths in Bristol compare favourably to other core cities. A growing proportion of housing in the city is in the private rental sector, and within this, a significant share comprises houses of multiple occupation (HMOs), which are generally in poorer condition than non-HMOs.

Mapping of areas of Bristol with the highest proportions of fuel poor households tend to show up areas with large student populations and more affluent areas with older and larger Georgian homes, which are likely to have the highest total fuel bills, including Cotham, Bishopston and Clifton. However, mapping that overlays measures of poor health, low income and low energy efficiency tend to highlight other areas of the city, including Hartcliffe and Withywood, Lawrence Hill, Filwood, Ashley, Southmead and Easton. This demonstrates the importance of applying local understanding to development of action to tackle cold homes and associated harm to health in Bristol.

The JSNA highlights the inter-relationships between fuel poverty and poor quality housing, income poverty, debt, food, transport and health issues. Advice agencies report being at capacity and overwhelmed by demand. The need for more collaborative working and data sharing between support and health service providers is highlighted, as well as for research to inform the strategic direction of local efforts and resources within the health and social care sectors.

1.5 Rationale for action

The No Cold Homes steering group formed of Bristol City Council and other organisations active in tackling fuel poverty and related social, economic and health challenges in the city came together to drive action to end cold homes in Bristol. The production in 2018 of a JSNA fuel poverty chapter for Bristol by the No Cold Homes steering group was an important first step in highlighting the importance of tackling this preventable cause of ill health. The first recommendation from the JSNA was that the Health and Wellbeing Board facilitate the development of a fuel poverty strategy in collaboration with relevant organisations across Bristol.

1.6 Opportunities - what enables us to confront challenges – include national enablers

A number of national enablers provide the basis to confront the challenges faced.

The general election provides the basis for a reset of national policy commitments on tackling fuel poverty, with improvements to the energy efficiency of our national housing stock appearing in manifesto commitments. An update of the fuel poverty strategy for England provides an opportunity to confirm and refresh commitments and associated action and investment.

A recently published [BEIS select committee report on energy efficiency](#) urged the UK government to follow the example of the devolved nations with respect to complementing ECO funds with publicly funded programmes. The report is generally considered very coherent with a thorough evidence base. The government will have to reply to all of the committee's recommendations, so this may result in further opportunities at national level towards which the action plan can contribute.

A Public Health England (PHE) e-learning module for front line health workers on recognising the health impact of cold homes has been developed, as a result of work by the BEIS fuel poverty and health working group. However a more tailored module is likely to yield increased referrals to Bristol's own single-point-of-contact service.

2 Our partnership approach

2.1 Fit with One City Plan

In January 2019 Bristol published its first ever One City Plan and in February 2020 the One City Environmental Sustainability Board published the One City Climate Strategy. The fuel poverty action plan is an essential additional to guide cross-sector, city-wide collaboration to tackle the challenge of cold homes. It will contribute towards the One City Plan goal of making Bristol a fair, healthy and sustainable city by 2050.

Bristol's declaration of a climate emergency and subsequent publication of the One City Climate Strategy provide an important regional context within which actions to end cold homes must be delivered. This will bring both challenges and opportunities, with the potential city-wide investment in new heating systems and insulation but also the prospect that fuel poor households - as well as others - will require financial and other help to participate in this transition.

The target to end cold homes by 2030 will require a holistic approach to tackling the complex problem of fuel poverty. It will require a collaborative approach, led and overseen by the Health and Wellbeing Board, the Environmental Sustainability Board and the Bristol Homes and Communities Board. Activities driven and overseen by the Economy Board will also be important to tackling fuel poverty.

The action plan will need people and organisations from across the city to take action. It will need to interact with other city-wide collaborative initiatives (see Box 1) towards the wider goal of making Bristol a fair, healthy and sustainable city by 2050.

Box 1: Related cross-city collaborations and delivery strategies

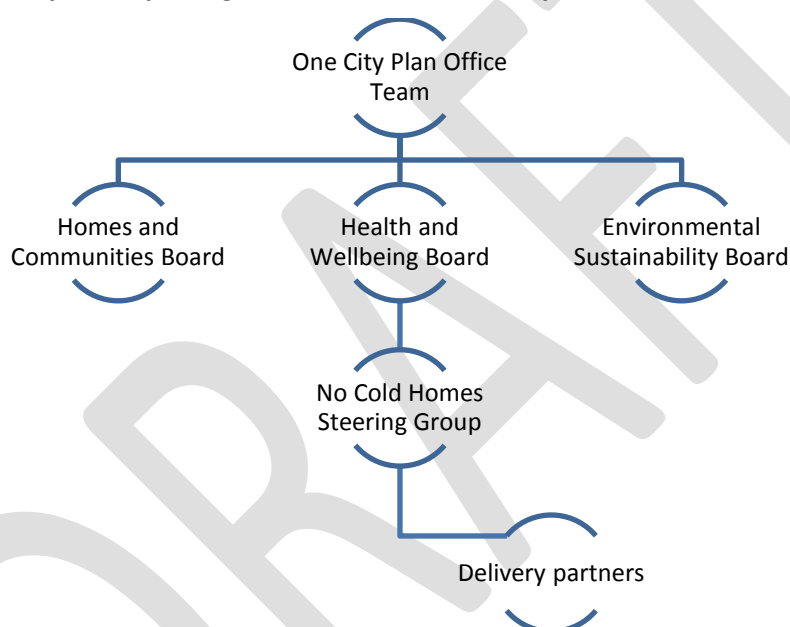
- One City Climate Strategy: Sets out scale of ambition and actions needed to achieve Net Zero by 2030.
- Bristol City Funds - £10 million investment funding for solutions that target the causes and effects of inequality in Bristol.
- Thrive Bristol - 10 year programme to improve the mental health and wellbeing of everyone in Bristol, with a focus on those with the greatest needs. Fuel poverty is an important underlying cause of poor mental health.
- Healthier Together - the Sustainability Transformation Partnership Long Term Plan 2020 – 2025 covering health care in Bristol and surrounding areas. The health sector needs to engage fully in actions to end cold homes as a cause of ill-health and prevent discharge from hospital into cold homes.
- Homelessness and Rough Sleeping Strategy 2019-24. Fuel indebtedness can push people towards homelessness. Equipping newly housed people to manage their bills can support them to regain independence in their own home.

2.2 Oversight and delivery responsibility

Oversight and delivery responsibility is identified as lying with one of three boards – see Figure 1. There is inevitably some overlap in the responsibilities relating to improving the energy efficiency of housing.

- Bristol Homes and Communities Board
 - Affordable, energy efficient housing
- Environmental Sustainability Board
 - Affordable, low carbon heating
 - An inclusive, affordable smart energy system
- The Health and Wellbeing Board
 - Specialist cold homes advice services and referral pathway

Figure 1: Delivery and reporting structure for Fuel Poverty Action Plan



The No Cold Homes steering group will support the oversight role of the boards, in the following ways:

- Co-ordinate the monitoring of activity by delivery bodies to the One City boards
- Compile data to enable reporting against key progress indicators
- Provide advice to boards and commission research on behalf of boards to underpin understanding of further action needed to accelerate progress and overcome barriers.

This will require dedicated funding, including additional budget to pay for any commissioned research. An executive team with representatives from Bristol City Council’s Energy team, Bristol Energy, the Centre for Sustainable Energy will provide administrative support to the steering group.

A wider network of No Cold Homes delivery bodies will plan and deliver activities. This includes Bristol City Council teams, health providers, businesses, non-profit organisations, Voluntary and Community Sector (VCS) organisations and academic bodies.

2.3 Outcomes focused action plan

The action plan focuses on achieving outcomes. The main outcome is that:

- By 2030, nobody in Bristol will suffer from a cold home due to fuel poverty and/or inability to have the necessary insulation and heating. This will be measured using the LILEE definition. As measured by: Number of households in Bristol with income 60% below median income living in a home with an energy efficiency rating of Band D or lower.

Intermediary outcomes are:

- Develop fuel poverty action plan for delivery from April 2020 onwards
- Health & Wellbeing Board reports regularly on progress towards completing all recommendations of the NICE guideline.
- Investment of £217 million to 2030 for retrofit of fuel poor homes in line with One City Climate Strategy to reduce energy demand and costs, using existing and new funding mechanisms, including City Leap.
- Additional £2.3million revenue funding secured for City-wide single Point of Contact (SPOC) health & housing referral service commissioned beyond 2021 to deliver advice and support services to 2,500 fuel poor hours annually.
- Health & social care practitioners, social housing professionals, voluntary & faith sector front line workers trained to identify people in need of support & make onward referrals
- All vulnerable people with cold-related health risk factors discharged from hospital to a warm home by 2025

3 Affordable, energy efficient housing

3.1 Oversight Board: Homes and Communities

3.2 Context

The One City Plan aims to ensure that every person in Bristol will be able to live in a home that they can afford and which is secure and warm. There is a shortage of affordable housing in Bristol, with a 74.8% increase in average house prices over the last ten years, a housing affordability ratio of 9.12, higher than the national average, and one of the highest rates of rent increases in the country.^{4,5} The combination of high housing costs and low efficiency housing stock, particularly in the private sector, contribute to continuing high rates of fuel poverty.

Current statutory energy efficiency commitments require all fuel poor homes by 2030 in England to be levelled up to the energy efficiency standards of a current new-build home (EPC C). There is also a national policy target for all private rented sector homes to achieve a minimum EPC by 2030. To tackle fuel poverty and carbon emissions, major improvements must be made to housing in Bristol across all sectors (owner occupied, private and social rented sectors). Bristol's existing housing stock contains large proportions of old, inefficient homes. A quarter of housing has solid walls.⁶ An estimated 22,000 fuel poor homes need retrofitting to achieve at least an Energy Performance Certificate (EPC) rating of C by 2030.⁷ These inefficient homes cost 2-3 times more to heat than more efficient homes. In response, people living below the poverty line under heat their homes to save money, exposing them to the harm associated with living in a cold home – a key driver of fuel poverty.

Bristol must deliver a large scale energy efficiency retrofit response. The scale of investment needed is estimated at £190 - £220 million over the next decade. For this Bristol will need to claim a significant share of the Government-announced but not yet launched HUGs and social housing decarbonisation schemes. Bristol has current funding for retrofit in the existing ECO scheme: Bristol City Council's Energy Company Obligation (ECO) Flex Statement of Intent is designed to ensure funding is targeted at fuel poor households.⁸ Bristol Energy expects to spend up to £750,000 of ECO funding over the next 2 years from April 2020 to pay for energy efficiency and heating measures in fuel poor homes.

A significant amount of investment will need to be targeted at the private rented sector, making best use of the minimum energy efficiency standard (MEES) regulations. Tightened regulations are being developed to achieve the trajectory of minimum EPC C by 2030.

The April 2020 budget committed £12.2 billion to creating 200,000 new affordable homes in England. New housing in Bristol will be required to meet tightened energy efficiency standards. In Bristol stakeholders responded to a recent consultation on Future Homes Standards. Bristol City

⁴ State of Bristol: Key factors 2019

⁵ <https://www.zoopla.co.uk/discover/renting/zoopla-rental-market-report/>

⁶ [https://tools.smartsteep.eu/wiki/Bristol - Housing Stock Assessment](https://tools.smartsteep.eu/wiki/Bristol_-_Housing_Stock_Assessment)

⁷ See APPENDIX D for more information

⁸ <https://www.bristol.gov.uk/documents/20182/33407/ECO+Flexible+Eligibility+Statement+of+Intent+v1.0/76a98415-e38d-a031-21ce-a8188ab41478>

Council is exploring the use of thermal imaging as a means to check that performance standards are met in new homes.

Temporary accommodation for homeless people and people at risk of homelessness needs to be improved to ensure that accommodation is safe, warm and appropriate for individuals and families to live in. This aspect of the plan needs to be more fully developed, planned and funded, interacting with delivery of the Homelessness and Rough Sleeping Strategy 2019-24.

3.3 Planned Actions

Action	Timeline	Status	Target / measure of progress	Delivery lead
Use selective licensing to drive improvements in energy efficiency of homes via EPC, MEES & Housing Act	2020 /2025 / 2030	Extend / tighten rqts. to D / C	PRS homes improved to EPC E by 2020/ D by 2025 /C by 2030	BCC Private Housing Team
Provide top-up grants to PRS landlords above £3500 (£250k in grant funding to 2022). Require improvements to EPC D by 2025 / to EPC C by 2030 – with supporting funding.	2019-2022	Extend beyond 2022 / Scale up	PRS homes improved to EPC E & higher by 2022	BCC Private Housing Team BCC Energy Service
Local authority-led mass retrofit investment in social housing to bring to C by 2030	2021 - 2030	Scale up	Social housing improved to EPC C or better by 2030	BCC Housing Team BCC Energy Service
Housing associations mass retrofit programme for fuel poor homes to bring to C by 2030	2021 - 2030	Scale up	Social housing improved to EPC C or better by 2030	Housing associations
Channel and support national government funding for low income private owner energy efficiency retrofit measures and heating	2020 - 2030	New	Fuel poor owner-occupier homes improved to EPC C or better by 2030	BCC Private Housing Team BCC Energy Service
Bristol Energy & BCC Energy Service to deliver ECO funding to focus on fuel poor households - private rented and owner occupied homes £750k	2020 - 2022	New	Private Rented Sector and owner occupiers & households improved to EPC E & higher by 2022	BCC Private Housing Team BCC Energy Service Bristol Energy
Develop local supply chain on low cost repairs, retrofit, low carbon heating, new build sustainable homes. Learn from Futureproof	[Futureproof 2019-2021] 2021 onwards	NEW	Number of contractors trained	The Green Register/CSE
Build new affordable homes to C and above	2020 onwards	Scale up	# new affordable homes EPC C or	BCC Housing Delivery

			higher in Bristol	
Prioritise investment in housing repairs to fuel poor households in social housing	??	Existing	??	BCC Housing Team BCC Accessible Homes
Financial support for private low income home owners to make repairs to heating and minimise heat loss	??	Existing / scale up		BCC Private Housing Team / WE Care
Use HHSRS powers to require improvements to PRS housing of FP households	??			BCC Housing and Private Housing Team

3.4 Other ongoing activities

Bristol Energy's Fuel Good Fund includes support for home energy improvements, and energy efficiency measures. Advice services also provide help fuel poor households identify their needs and help them access available funding for improvements to their homes. See section 5.4.

Futureproof is a market accelerator initiative facilitated by The Green Register and Centre for Sustainable Energy, currently working to build the skills for low carbon retrofit delivery in Bristol and the surrounding area. The initiative is mainly aimed at the 'able to pay' market. An adapted version with a different funding model is needed to enable widened access to high quality workmanship by lower income homeowners wanting to make improvements to their home.

Roof over my head is a multi-agency three day tenancy preparedness course for households who are homeless or in supporting housing moving to private rented accommodation. The course, delivered by WRAMAS (Bristol City Council Welfare Rights and Money Advice Service) and BCC Learning Communities' Team covers landlord and tenant responsibilities, budgeting, welfare rights, and other topics. It supports around 180 households per year.

4 Affordable low carbon heating

4.1 Oversight Board: Environmental sustainability

4.2 Context

Affordable heating options are key to tackling fuel poverty. Upgrading the energy performance of the city's buildings described above would have a significant impact on reducing fuel poverty. Nevertheless several factors influence a household's ability to keep affordably warm in winter e.g. income, building efficiency, and heating practices.

Gas central heating is now a higher carbon option than electric heating. Moving towards the decarbonisation of heat with the shift away from gas heating to heat pumps or district heating is likely to increase heating costs. This creates a tension between the dual challenges of attaining affordable warmth for every household and decarbonising heat. The anticipated 20-30% increase in fuel bills for heating costs may be balanced out by reductions in energy consumption due to energy efficiency improvements and the reduced standing charge on bills. It may, therefore, be possible to shift to low carbon heat without exacerbating fuel poverty.

The Energy Companies Obligation (ECO) is a government energy efficiency scheme in Great Britain to help reduce carbon emissions and tackle fuel poverty. ECO3, the current policy which runs to March 2022, the Home Heating Cost Reduction Obligation (HHCRO) requires obligated suppliers to promote eligible measures which improve the ability of low income, fuel poor and vulnerable households to heat their homes.⁹

The Budget (March 2020) announced a new £100m scheme to help households and small businesses invest in low carbon heating. It is also providing £270 million in funding for a Green Heat Networks scheme to encourage new and existing heat networks to adopt low carbon heat sources.

4.3 Heat networks

District heating provides a low carbon alternative to gas central heating to deliver affordable heat. Homes and businesses receive heat from energy centres through a network of pipes. Bristol already has a major city centre heat network, with over 1000 properties (700 of them council-owned homes) already connected to it. It has been awarded £10 million by the government's Heat Network Investment Project to expand this network to new areas of the city during 2020-2030.¹⁰ The expansion is ongoing in the Temple Quay, City Centre and Old Market areas of the City, with new residential developments and existing social housing blocks being connected. Longer term activities to 2030 as part of the One City Climate Strategy will require heat networks across much of the city, particularly in areas with larger properties.

⁹ https://www.ofgem.gov.uk/system/files/docs/2020/02/energy_company_obligation_2018-22_eco3_guidance_delivery_v1.4_1.pdf

¹⁰ <https://environmentjournal.online/articles/bristol-has-recieved-10m-to-expand-their-low-carbon-heat-network/> 6th March 2020

4.4 Heat pumps

Heat pumps will also play a major role in decarbonising heat in Bristol, as set out in the One City Climate Strategy. Homes need to be fully insulated before heat pump installation, and occupants given advice on how to use, maintain and repair them. The capital costs to install heat pumps are currently much higher than for gas boilers. Bristol City Council will need to join with other Core Cities to influence central government policy to redirect ECO funding from gas boilers to heat pumps to make heat pumps more affordable. Bristol City Council Energy services have yet to develop specific plans to roll out heat pump installation in areas of the city not served by the heat network. See Appendix D, Improving the dwelling of fuel poor households in Bristol to EPC band C (at minimum cost), for a detailed analysis of the cost of installing energy efficiency measures and a comparison of gas combi boilers and heat pumps as heating options.

4.5 Heat as a Service

Bristol Energy's Heat as a Service trial involves selling 'warm hours' to customers over a period of time instead of kWh of energy. This is a new way of selling energy intended to help customers budget, be more in control of their heating to achieve their desired level of warmth. There is an intention to prioritise fuel poor households in future.

4.6 Planned Actions

Recommended Actions	Timeline	Status	Target / measure of progress	Who has responsibility / who can influence
Develop 'affordable warmth' funded retrofit and subsidy package to pay for insulation and low carbon heating solutions for fuel poor households in Bristol from 2022/2023	2022 onwards	NEW	10,000 fuel poor homes retrofitted with low carbon heating by 2030 Approx. 17,000 insulation type measures (see Appendix D)	BCC Energy Service
Make best use of ECO3 funding for solid wall insulation in fuel poor homes to 2022 and gov funding to 2030	2020 – 2022 / 2022-2030	NEW	1100 external wall insulation by 2030	BCC Energy Service
Develop 'heat as a service' offers suitable for low income households, building on Energy Systems Catapult/Bristol Energy trial		NEW	Fuel poor homes able to heat homes affordably via heat as a service	Bristol Energy / BCC Energy Service
Expand heat network connections to social housing blocks and fuel poor homes as part of One City climate strategy	Already started	Scale up	Social/affordable homes connected to low cost heat network by 2030	BCC Energy Service
Influence government policy and secure funding for heat pumps to be installed in fuel	From 2022	NEW	Up to 10,000 fuel poor homes retrofitted with heat pumps by 2030 (see	BCC Energy Service

poor homes from 2022. Trial most suitable delivery model.			appendix D)	
Core Strategy BCS14: major developments in 'Heat Priority Areas' should connect to existing heat networks, where available. Where not yet available, developments should incorporate infrastructure to connect in the future.	Adopted in 2011	Scale up	New-build social / affordable homes connected to existing heat networks (includes existing post 2011 new homes not yet connected)	BCC Energy Service
Monitor roll out of low carbon heating to ensure BCC tenant households are not pushed into fuel poverty	2020 - 2030	New	Static or reducing number of BCC tenant households in fuel poverty	BCC Housing Team
Test and adopt cost-effective techniques to monitor the actual heat loss performance of new build and retrofit homes	2022	NEW	Reduced performance gap of new and retrofit social & affordable homes	BCC Energy Service
Train community thermal imaging champions to deliver surveys for fuel poor households	Already Started	Scale Up	# fuel poor households surveyed/yr & install measures.	Bristol Energy Network / Futureproof
Help with hoarding, temporary rehousing and other support to enable installation of insulation and heating measures in fuel poor properties.	??	New	# fuel poor HH helped to overcome barriers to affordable heat measures installation	BCC Energy Service / WE Care / CSE

4.7 Other ongoing activities

Funding is available for first time gas central heating for fuel poor households in Bristol, with a target of 238 installations across Bristol & BANES & North Somerset by 2022.

Bristol Energy Network provide ongoing activities that support people living in fuel poverty including educational events that promote energy efficiency retrofit.

The Making Space project facilitated by WE Care provides practical and emotional support to hoarders. Hoarding can contribute to fuel poverty as it may be impossible to service a boiler or fit a new heating system, resulting in a cold home and/or financial hardship due to reliance on expensive electric space and water heating.

WE Care provide support for home repairs vital to help vulnerable householder stay safe and warm in their homes, including fixing or replacing heating, improving energy efficiency or making adaptations.

5 An inclusive, affordable, smart energy system

5.1 Oversight Board: Environmental sustainability

5.2 Context

Bristol is an entrepreneurial city at the forefront of smart city initiatives: it ranks in the top 10 European cities for technology. Bristol's Smart City Strategy addresses how innovative solutions will change how people live in the city and address energy use challenges in the future. The council and Bristol Energy are leading pioneering projects to ensure Bristol's innovation successes benefit all sections of society including fuel poor and low income households in Bristol. The city also benefits from a thriving community energy sector who have supported the involvement of fuel poor households in innovation projects, such as Replicate (see below). The national smart meter rollout means that smart Time of Use tariffs will soon become more widely available: this brings with it a need to be attentive to the opportunities and risks for fuel poor households.

Bristol has leveraged EU innovation funding for the REPLICATE project that trials smart solutions to tackle fuel poverty, promote wellbeing and reduce carbon emissions. The project, led by Bristol City Council in partnership with the university and others runs from 2016-2021.¹¹ The project aims to deploy integrated energy, mobility and ICT solutions in cities. One of the project aims is to explore the role of smart technology in tackling fuel poverty. It is trialling smart technology in areas of the city with high rates of fuel poverty: Ashley, Easton and Lawrence Hill. The Save with Solar Bristol project being undertaken by Bristol City Council in partnership with Bristol Energy is pilot testing solar PV and battery equipment installation across social housing towards the development of a viable commercial model to expand across BCC's social housing estate.¹²

5.3 Planned Actions

Actions	Timeline	Status	Target / measure of progress	Who has responsibility / who can influence
Replicate smart connected homes trial tests how smart appliances, demand side response (DSR) & associated tariffs enable low income households to save energy & money on fuel bills.	2016-2021	Trial ends 2021	Lessons for engaging fuel poor households in DSR.	REPLICATE Team -BCC & partners
Replicate trial retrofit of loft insulation, new boilers and solar PV in fuel poor homes.	2016-2021	Trial Ends 2021	Bill savings & energy savings achieved	REPLICATE Team
Integrate lessons from Replicate into city-wide installations (see One City Climate Strategy Delivery	2021-2030	NEW	Fuel poor HH engaged in smarter energy solutions	BCC City Innovation CSE

¹¹ Replicate (Renaissance in Places with Innovative Citizenship and Technology) Bristol partners include Bristol City Council, University of Bristol; Knowle West Media Centre; Bristol Energy Network, UWE; NEC; Bristol is Open; Zeetta Networks & others.

¹² Bristol City Council (2019) Save with Solar Bristol. Report prepared by Lorna Humphreys.

Theme 4: Electricity)				
Expand Save with Solar Bristol trial solar PV and battery trial (10 houses to date) to commercial model for social housing –City Leap.	Trial to 2021? Expand from 2022	EXPAND As commercial model	9,600 solar PV installed in BCC social housing by 2030 Tenant bill savings	BCC Energy Service Bristol Energy
Community sector approaches & business models to enable fuel poor households to participate in smart tech eg solar PV or tariff pilots, building on eg Lockleaze Loves Solar.	2021	NEW	Contribute to 9600 solar PV on fuel poor homes. Also batteries and new tariffs	Bristol Energy Network (BEN) CSE

5.4 Other ongoing activities

The community energy sector in Bristol is engaged in a variety of initiatives to support people living in more deprived areas of Bristol to engage in innovative smart energy projects towards that help achieve reduced energy bills and make smart solutions work for fuel poor households. One such example is Lockleaze Loves Solar. This is an innovation trial which aims to install 1MW of solar PV across 300 roofs in the Lockleaze area at no costs to the householder. Target homes are social housing, lower income households and planned new housing in the area. The trial seeks to develop a viable business model for community groups to deliver rooftop solar projects in communities with fuel poor households.¹³

¹³ <https://www.lockleazehub.org.uk/lockleaze-loves-solar>

6 Specialist cold homes advice services and referral pathway

6.1 Oversight Board: Health and Wellbeing

6.2 Context

Bristol has a strong economy and numerous cultural and natural assets, but the city faces a major challenge in the scale of inequalities that exist within it. 69,000 people in Bristol live in some of the 10% most deprived local communities in England. The city was ranked 55th in the country for the size of the inequality in employment between White British people and ethnic minorities.¹⁴ One form in which these stark inequalities manifest is as fuel poverty, which can have lifelong adverse effects on health, learning and income.¹⁵

The National Institute for Health and Care Excellence (NICE) guidance (NG6) on excess winter death and the health risks associated with cold homes sets out a clear set of actions aimed at health bodies and professionals, including Health and Wellbeing Boards. The Bristol JSNA 2018 chapter on Fuel poverty adopted the full set of measures as recommendations to take forward. At the heart of this is having in place a Single Point of Contact (SPOC) specialist health and cold homes specialist advice service, with effective referral pathways from the health, voluntary and community sectors.

See Appendix E for a summary of Bristol's progress towards fulfilling the NICE guidance recommendations. Key outstanding challenges are to increase skills and capacity in the health and social care sectors to identify and refer onwards people with poor health who are most at risk from cold homes, as well as to extend and scale up the capacity and reach of specialist advice services.

Healthier Together is the Sustainability Transformation Partnership Long Term Plan 2020 – 2025 covering health care in Bristol and surrounding areas.¹⁶ This plan provides a key opportunity for giving greater importance to and recognition of the responsibility of partners for reducing cold homes in line with the NICE guidance recommendations.

Warmer Homes, Advice and Money (WHAM) is a multi-agency partnership which provides a comprehensive service to people living in fuel poverty and financial hardship in Bristol.¹⁷ It is funded from a variety of sources including the Bristol Energy Fuel Good Fund. The project acts as a single point of contact for specialist energy advice.

CSE currently runs the Tenant Energy Advice (TEA) Service for Bristol City Council housing tenants. CSE's home energy advice line provides a free, local and impartial energy advice service – it is the first point of contact for a range of other CSE services delivered by trained advisors. New partnerships enable delivery of tailored energy advice to particular interest groups. A recent new initiative is a specialist energy advice service for refugees and asylum seekers in Bristol.

¹⁴ A Runnymede study, referenced in Bristol One City Plan

¹⁵ Chance of a lifetime. The impact of bad housing on children's lives. Shelter 2006 pg 24

¹⁶ Bristol, North Somerset, South Gloucestershire STPs; Avon and Wiltshire Mental Health Partnership NHS Trust; Bristol City Council; Bristol Community Health; Bristol, North Somerset, South Gloucestershire clinical Commissioning Group (CCG); North Bristol NHS Trust; North Somerset Community Partnership; North Somerset Council; One Care; Sirona care & health; South Gloucestershire Council; South Western Ambulance

¹⁷ Centre for Sustainable Energy, Talking Money, Citizens Advice Bristol, Citizens Advice North Somerset, We Care Home Improvements, Bristol Energy Network, Bristol and North Somerset Council

These fit within an established network of advice and support agencies that provide independent, impartial advice and support across a range of areas that are vital for fuel poor households. Advisor knowledge and referral processes are crucial to make sure individuals' multiple advice needs are addressed. Robust data sharing and referral processes are also needed to make every contact count.

6.3 Planned Actions

Recommended Actions	Timeline	Status	Target / measure of progress	Who has responsibility / who can influence
Extend funding of WHAM hospital worker role to enable discharge of patients to warm home.	Funded post to 2020	Extend	Additional 1 FTE worker from 2020/2021 Reduction in 30 day re-admission rate for patients with relevant conditions [target number tbc].	BNSSG STP
Secure ring-fenced funding to prioritise investment in improving energy efficiency of homes of people with existing health conditions. This requires analysis to confirm target numbers.	2021	New	£ investment in improvements [target number tbc] homes improved of people with target conditions Reduction in 30 day re-admission [target number tbc]. Self-reported better mental health.	BNSSG STP BCC
Trial & scale-up smart safeguarding service for older people with cold-related health conditions	2022	New	Reduced number emergency admissions by safeguarding participants. [target number tbc]	Health trust / Bristol University (Sphere)/CSE / tech partner /
Public health awareness campaign tied into e.g. flu vaccination / cold weather plan / other Winter resilience planning – include WHAM/ other advice & support services	Input for winter 2020	Scale up	Key messages included in winter health campaigns. Increased awareness of harm to health from cold homes amongst general public & re awareness of available services. 25% increase in people referred to SPOC during/following campaign	BNSSG STP / CCGs / Trusts / WHAM/

in Plan				
Analysis of value of single point of contact (WHAM) and hospital discharge case worker to justify health funding & continued funding from government / ECO / other sources for expanded scheme.	Start 09/2020 Interim findings spring 2021 Final spring 2022	New	Funded evaluation of single point of contact /discharge service Qualitative evidence of benefits. Reduction in emergency admissions & GP events. £ value of savings to NHS	Bristol Health Partners CLAHRC West – funded as Applied Research Collaboration West (ARC West), CSE, WHAM, CCGs & Trusts
Development activity to secure funding for expanded service (Bristol Energy; BCC; government, ECO, redress, other existing funding sources)	09/2020	Scale up	£2.3 million secured for fuel poverty advice services in Bristol 2020 –2030 (£100/client, 23,000 clients)	CSE & partners BCC / Bristol Energy
Continue and expand delivery of year-round integrated advice services - by phone, home visit, outreach (income max, energy, repairs, measures, behaviours).	2021-2030	Scale up	23,000 fuel poor households reached by services: 2,500/yr Improved self-reported ability to keep warm / manage fuel bills / reduced worry.	CSE / ACFA / BCC / advice agencies
Joint PSR, via data sharing under Digital Economy Act 2017 between BCC, WPD, Bristol Energy, water companies to enable planning & targeting of measures & support	Already started	Scale up	Joint PSR between BCC, WPD, Wessex Water & Bristol Energy 15% increase PSR registered (against WPD PSR). All PSR customers in Bristol contacted & checked every 2 yrs Target to be defined for PSR customers in Bristol referred for & received support and/or funded measures.	WPD, Bristol & Wessex Water, Bristol Energy, BCC
Bristol social prescribing	Existing service	New	Target to be defined for referrals to SPOC (WHAM/ TEA) from health	CCGs / Trusts/Sirona /

pathway mechanism to generate referrals to specialist cold homes advice service.	ends March 2020		providers / from VCS.	WHAM/The Care Forum /WRAMAS/VOSCUR
Develop Bristol-specific front line training on cold home awareness & how to make referrals to WHAM/TEA/CSE advice service – for health workers & for voluntary & community sector (VCS).	2021	New	Funding secured for development of bespoke training module, launch, promotion & support. Completion of training on rolling basis by [target number tbc] health workers/yr & [target number tbc] VCS FLWs/yr 2020 – 2030.	WRAMAS VOSCUR ACFA ?? BCC CSE / WHAM partners Thrive
Link cold homes awareness training to Thrive mental health awareness training	Set up in 2020		[target number tbc] health FLW / CVS FLWs completed both mental health awareness & cold homes awareness training.	Thrive CSE / WHAM partners BCC BNSSG STP
Build on city best practice to facilitate robust referral systems between advice services. Increase collaboration to 'Make every contact count'		Scale up	City-wide extension of referrals through adoption of common 'protocol'. Fuel poor households access holistic service provision and can access all relevant help	???

6.4 Other ongoing activities

Thrive Bristol, a ten year programme launched in 2018, aims to improve Bristolians mental health. The project covers all ages and considers mental health in its broadest sense. It focuses on prevention and early intervention and works by using public, private and third sector co-operation, leadership and resources across the city. Thrive offers collaborative training for workforces including housing officers and landlords on mental health awareness. The programme has a number of work streams that link with fuel poverty, and it supports social prescribing to Age Friendly Bristol.

Food insecurity is also a major challenge in Bristol. Where householders struggle to afford their outgoings they face the 'heat or eat' dilemma. A number of foodbanks across the city offer vital support, providing users with food, fuel vouchers and referrals to relevant advice agencies.

The Welfare Rights and Money Advice Service (WRAMAS) is a council service which takes referrals for assisted and specialist case work for individual clients to maximise their income from accessing welfare benefits, particularly disabled people and full-time carers. Talking Money and Citizens Advice provide a range of money advice services to help people struggling with debt, bills and money management. To scale up the support they provide will require further long term funding. These and other organisations maximise income for fuel poor households through a range of activities such as checking benefits entitlements, helping people appeal benefits decisions, helping with tariff switches, applying for discounts on utility bills, accessing essential goods/resources from charitable sources and clearing debt.

Bristol Water and Western Power Distribution (WPD) keep separate registers of their vulnerable customers in case of power or water outage but they now share Priority Service Register (PSR) data to improve services for vulnerable people and are starting to share information so that households are offered support when they need it.

First Contact Bristol was a referral service for use by frontline workers supporting older people to access different support services, including specialist energy advice. Funding for the service ends 31 March 2020. North Bristol NHS Trust have been promoting the scheme with referral postcards in A&E and on hospital wards. With the end of funding, this risks a gap in Bristol falling backwards in responding to the Nice recommendation for effective referrals.

7 Indicators and reporting

Actions within the plan and associated projects will be measured against a series of outcomes and indicators. Primary indicators will measure the overall delivery and impact of interventions being delivered by collaborating partners across Bristol. Secondary indicators will provide feedback on how effectively funded interventions are delivered.

Reporting on these indicators will be included as part of an annual progress review of this Fuel Poverty Action Plan. These are currently in draft. We would welcome suggestions on targets and how best to monitor them.

7.1 Primary indicators

Outcomes	Indicators	Baseline
Develop fuel poverty action plan in 2019	Action plan sign off by No Cold Homes steering group in 2020 Adoption / sign-off of action plan April 2020	No Cold Homes workshop to identify activities Nov 2019 Draft action plan produced.
Funding for fuel poverty activity	<ul style="list-style-type: none"> • Single point of contact service commissioned beyond 2021 and service expanded to meet needs • Funding secured from government, ECO3 or other existing grant funding schemes • Additional capital funding secured for installation of measures benefitting fuel poor homes (£20 million over lifetime of action plan) • Additional £2.3 million revenue funding secured for services supporting fuel poor households over lifetime of action plan 	
Reduce the number of fuel poor homes in Bristol	Fuel poverty in Bristol (count/value/recent trend) Measured using: Annual fuel poverty statistics produced by BEIS. Mental health and wellbeing JSNA B17 - Fuel Poverty	Year: 2017 Count: 23,015 Value: 11.7 Trend:
Improve the energy efficiency of fuel poor homes in Bristol in line with national targets.	Number of measures installed against modelled target to meet EPC band C and above by 2030 (see Appendix D) to value £217 million, improving approx. 22,300 FP homes.	

	<p>Number of fuel poor homes in</p> <ul style="list-style-type: none"> • EPC bands F&G (2020) • EPC bands E to D (2025) • EPC band C and above (2030) <p>Note: A home moved from EPC band G to EPC band C in 2020, for example, would contribute towards the 2030 target and interim milestones.</p>	
Downward trend in the rate of excess winter death	<p>Ratio of extra deaths from all causes that occur in the winter months compared with the expected number of deaths – as single year / as 3-year aggregate</p> <p>Public Health Outcomes</p> <p>Framework E14 – Excess Winter Deaths Index</p>	<p>Year: 2017-2018</p> <p>Number: 296</p> <p>Value: 28.1%</p>

7.2 Secondary indicators

Outcomes	Indicator(s)
<p>Improved quality of life</p> <p>Quality of Life Survey Bristol</p>	<ul style="list-style-type: none"> • % satisfied with the cost of heating their home (by tenure) • % satisfied with the state of repair of their home (by tenure) • % who find it difficult to manage financially
<p>Improved health and wellbeing</p>	<ul style="list-style-type: none"> • % below average mental wellbeing (Bristol Quality of Life survey) • Self-reported question (ONS Wellbeing Indicator or Warwick-Edinburgh Mental Well-Being Scale) • Symptom severity - people with existing cold-related conditions • Use of planned and emergency health services by people with existing cold-related conditions • Ability to pay bills (level of worry about paying heating bills; extent to which avoid switching on heating due to concerns about costs)
<p>Data is shared to identify people who are vulnerable to the health problems associated with a cold home</p>	<ul style="list-style-type: none"> • Energy and water utilities, suppliers, support organisations and health bodies share data to identify vulnerable people to plan city-wide services
<p>Improved referrals by the health and social care sector and by the voluntary and community sector (VCS)</p>	<ul style="list-style-type: none"> • Number of staff or volunteers completing training in awareness of cold homes (health/social care and VCS) • Number of trained staff reporting

	<p>confidence to identify and make successful referrals to SPOC service (health/social care and VCS)</p> <ul style="list-style-type: none"> • Numbers of successful referrals, broken down by referral route (health/social care and VCS)
Hospital admission rates and GP usage	Track the rates of service use for those who receive support, compared against control group and/or historical data.
Reduction in utility bills	<ul style="list-style-type: none"> • Reduction in energy bills, broken down by intervention (£/year) (TBC - estimated or reported). • Reduction in water bills, broken down by intervention (£/year). (TBC - estimated or reported).
Improved warmth in homes of fuel poor and vulnerable households	<ul style="list-style-type: none"> • Beneficiaries report improved warmth and comfort at home in winter
Income maximisation	<ul style="list-style-type: none"> • Number of successful referrals to income maximisation service • Amount of additional income secured per household • Reduction in fuel debt (£/hh)

7.3 Reporting progress

The No Cold Homes steering group will need to appoint responsibility for monitoring data collection and reporting by the different delivery bodies on a regular basis. Quarterly meetings will provide an opportunity to review progress.

The No Cold Homes steering group will be responsible for preparing an annual progress report to submit to the Health and Wellbeing Board. This will include collation of key indicators of progress, though it should be noted that national fuel poverty statistics are reported nationally a year in arrears. The Health and Wellbeing board will be responsible for providing overall oversight and scrutiny of progress against the target.

7.4 Supporting research

Further research will be required to support delivery of the action plan, including to understand the scale and feasibility of recommended actions, better understand the fit with One City Climate Strategy and to evaluate the impact of actions.

Appendix A List of useful documents and resources

BEIS (2016) Affordable warmth and health impact evaluation toolkit.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/512555/Affordable_Warmth_Health_Impact_Evaluation_Toolkit.pdf

Bristol City Council (2018) Bristol JSNA 2018 Fuel Poverty Chapter.

<https://www.bristol.gov.uk/documents/20182/34772/Fuel+Poverty+JSNA+Chapter+%282018%29.pdf/46359d3e-74cd-524e-819f-d27c86a692ae>

Bristol Open Data Quality of Life indicators

https://opendata.bristol.gov.uk/explore/dataset/quality-of-life-2018-19-citywide-trend/table/?disjunctive.ward_name

Citizens Advice and Cornwall Council (2018) Cold Homes toolkit. Local authority toolkit. Health professionals' toolkit.

<https://www.citizensadvice.org.uk/about-us/how-we-provide-advice/advice-partnerships/cold-homes-toolkit/>

Nice Guidance (2015) NG6 'Excess winter deaths and illness and the health risks associated with cold homes'

<https://www.nice.org.uk/guidance/ng6>

Public Health England (2019) Helping People Living in Cold Homes. E-learning module.

<https://www.e-lfh.org.uk/programmes/cold-homes/>

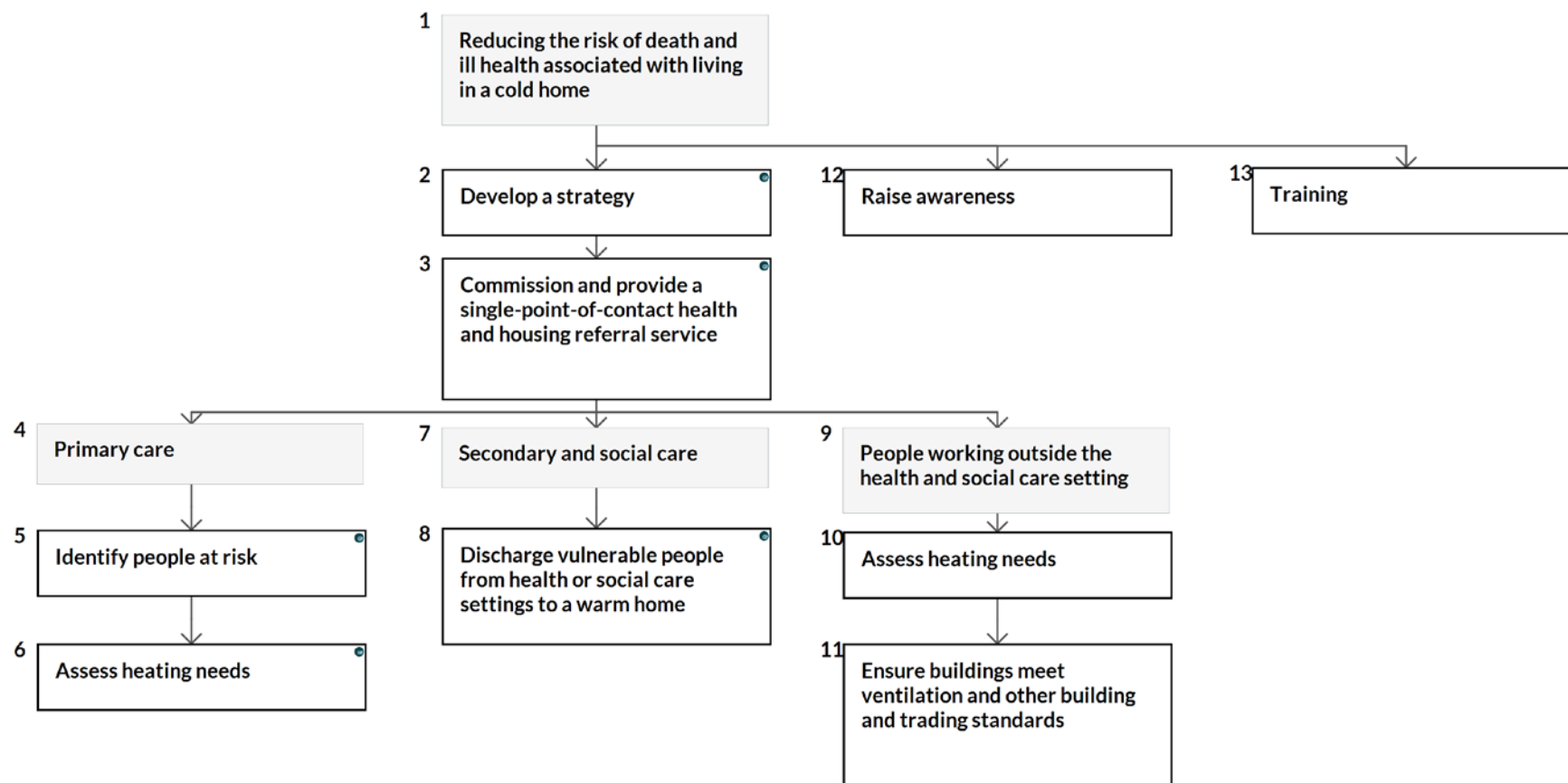
Public Health England (PHE) (2019) Data sources to support local services tackling health risks of cold homes.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770963/data_sources_to_support_local_services_tackling_health_risks_of_cold_homes.pdf

Public Health Outcomes Framework

<https://fingertips.phe.org.uk/profile/public-health-outcomes-framework>

Appendix B NICE Recommendations on Excess Winter Deaths and the Health Risks Associated With Cold Homes



Appendix C Glossary

Term	Definition
Bristol City Funds	<i>City Funds is a partnership of organisations committed to securing and directing £10 million investment funding towards solutions that target the causes and effects of inequality in Bristol.</i>
Bristol City Leap	<i>City Leap is a series of energy and infrastructure investment opportunities in Bristol to build a citywide energy system that will help decarbonise the city and improve the quality of life for people in Bristol.</i>
Centre for Sustainable Energy (CSE)	<i>Bristol based charity that deliver a range of energy advice services to residents of Bristol and England.</i>
Climate Emergency	<i>A climate emergency declaration is a statement that mandates a government or organisation to take urgent action to prevent climate change, often accompanied by emission reduction targets.</i>
Clinical Commissioning Group (CCG)	<i>Clinically-led statutory NHS bodies responsible for the planning and commissioning of health care services for their local area.</i>
Committee on Fuel Poverty	<i>An advisory non-departmental public body that advises on the effectiveness of policies aimed at reducing fuel poverty in England.</i>
Energy Company Obligation (ECO)	<i>Government programme that requires energy suppliers to help lower-income households install heating and energy efficiency measures in their home to help reduce carbon emissions and tackle fuel poverty.</i>
Energy Performance Certificate (EPC) Energy Efficiency Rating	<i>When a home is built, sold or rented in the UK, it needs an Energy Performance Certificate (EPC). This includes a chart which displays the energy efficiency rating of the home. It shows how much a building will cost to heat and light, what its carbon dioxide emissions are likely to be and what improvements you can make to improve its energy efficiency. An EPC rates a property in bands from A (most efficient) to G (least efficient).</i>
Going for Gold	<i>Bristol's city wide effort to become a Gold Sustainable Food City. This is a national programme that celebrates and supports communities that are making positive changes to their food system.</i>
Health and Wellbeing Board	<i>A forum in which key leaders from the local health and care system work together to improve the health and wellbeing of their local population. Health and wellbeing boards have a statutory duty, with clinical commissioning groups (CCGs) to produce a Joint Strategic Needs Assessment.</i>
Healthier Together	<i>This is the name of the Bristol, North Somerset and South Gloucestershire (BNSSG) Sustainability and Transformation Partnership (STP). The Partnership has produced a Sustainability Transformation Partnership Long Term Plan 2020 – 2025 for health care in Bristol and surrounding areas. The plan covers all aspects of NHS spending in the area, covering three headline issues: improving quality and developing new models of care; improving health and wellbeing; and improving efficiency of services.</i>
Houses of Multiple Occupation (HMOs)	<i>Properties rented to multiple households sharing kitchen, bathroom and toilet facilities. Multiple households refers to adults who are not related or a couple.</i>
Hybrid heat pump	<i>A combined heat pump and a gas condensing boiler create a</i>

	<i>domestic heating and hot water system. Hybrid heat pumps use a combination of gas and electricity. .</i>
Joint Strategic Needs Assessment (JSNA)	<i>The Joint Strategic Needs Assessment is used to assess the current and future healthcare and wellbeing needs of residents in a local authority. One chapter in the JSNA assesses needs relating to Fuel Poverty in Bristol.</i>
Local housing allowance	<i>The rates of housing benefit for tenants renting from private landlords who are eligible for support.</i>
Low Income High Cost (LIHC)	<i>An England-wide adopted measure of fuel poverty. It states that a household is in fuel poverty if they have above average modelled fuel costs and after spending that amount, they would have a residual income below the official poverty line.</i>
Low Income Low Energy Efficiency (LILEE)	<i>Proposed new fuel poverty definition for England. Under this definition, households will be deemed fuel poor if their disposable income (after housing and energy costs) is below the poverty line and they live in a property with an energy efficiency rating of Band D or lower. The LILEE measure would increase the number of households considered fuel poor by approximately 1 million, bringing the total number of fuel poor households in England up to over 3.6 million.</i>
Minimum Energy Efficiency Standards (MEES)	<i>Legislation that requires private rented (domestic and commercial) properties to have an EPC rating of E or higher. There is a cap of £3,500 on the amount of their own money that landlords are required to spend to improve the efficiency of a property. Enforcement of MEES is a local authority responsibility.</i>
National Institute for Health and Care Excellence (NICE) Guidance NG6	<i>This refers to guidance on 'Preventing excess winter deaths and illness associated with cold homes'. Clinical guidelines are recommendations on how healthcare and other professionals should care for people with specific conditions. NICE provides national guidance and advice to improve health and social care.</i>
Net Zero	<i>'Net zero' means that any greenhouse gas emissions are balanced by absorbing an equivalent amount from the atmosphere. Net Zero targets refer to policy targets to achieve net-zero greenhouse gases by a specific date. The UK has set a national target of Net Zero by 2050. Bristol has set itself a target of net zero by 2030.</i>
One City Climate Strategy	<i>Sets out scale of ambition and actions needed to achieve Net Zero by 2030.</i>
One City Plan	<i>A whole city plan and approach to reaching a shared vision of Bristol by focusing activity across sectors in the city.</i>
Single Point of Contact (SPOC)	<i>A person or organisation (with single contact phone number) that coordinates multiple services relating to health and housing for people at risk of living in a cold home. The creation and maintenance of a SPOC health and housing referral service is a key recommendation in NG6 to prevent harm to health from cold homes.</i>
Thermal imaging survey	<i>A survey that uses thermal imaging cameras to visually represent surface temperatures of an object.</i>
Thrive Bristol	<i>10 year programme to improve the mental health and wellbeing of everyone in Bristol, with a focus on those with the greatest needs.</i>
Universal Credit	<i>A means tested benefit replacing a number of other working age benefits in the UK. Migration to the new, online system started in</i>

Warmer Homes Advice and Money (WHAM)	2019. <i>A multi-agency project led by CSE that provides a single point of contact (SPOC) service for cold homes support in Bristol.</i>
Welfare Rights And Money Advice Service (WRAMAS)	<i>Part of Bristol City Council, WRAMAS provides benefits and money advice, consultancy, information and training, to a range of clients, services and organisations throughout Bristol.</i>

DRAFT

Appendix D Improving the dwelling of Fuel Poor households in Bristol to EPC band C

Modelling conducted February 2020 by CSE in the National Housing Model (NHM) using a stock based on the English Housing Survey 2014. The results included here are estimates only, and should be considered indicative rather than definitive.

Table 1 shows estimates from modelling at minimum cost –with over 7000 new gas or oil combi boilers installed. **Table 2** shows estimated costs for installing air source heat pumps instead of these new boilers as part of retrofit improvements. This was done outside the NHM model. This does not include assessment of whether air source heat pumps are suitable for properties. It is only to give an indicative low-carbon cost estimate. **Table 3** shows the resulting improvements in EPC band for fuel poor dwellings.

- Modelling does not include heat networks or ground source heat pumps.
- Modelling does not include detailed assessment of suitability for solar (eg roofsize).
- Modelling does not exclude measures not suitable for properties in conversation areas.
- Modelling does not include replacement of all existing Gas Central heating in fuel poor homes.

Table 1: At minimum cost - includes install of new more efficient gas or oil combi boilers

Technology	All urban south west fuel poor		average.cost	Bristol scaled	
	number.of.installs	total.cost		bristol.number.of.installs	bristol.total.cost
Air Source Heat Pump (ASHP)	13,907	86,843,000	6,245	2,500	15,780,500
External wall insulation	6,299	45,645,016	7,246	1,100	8,294,300
Floor insulation	31,473	24,896,419	791	5,700	4,524,000
Hot Water Cylinder Insulation	16,109	724,905	45	2,900	131,700
Internal wall insulation	30,066	173,454,132	5,769	5,500	31,518,800
Loft insulation	48,497	23,750,312	490	8,800	4,315,700
Low energy lighting	50,294	8,344,675	166	9,100	1,516,300
MAINS_GAS Combi Boiler	35,755	107,912,000	3,018	6,500	19,609,000
OIL Combi Boiler	4,898	20,111,700	4,106	900	3,654,600
Secondary glazing	447	577,423	1,292	100	104,900
Solar DHW (solar thermal)	32,194	144,873,000	4,500	5,900	26,325,300
Solar Photovoltaic	52,798	385,919,900	7,309	9,600	70,126,500
Storage heater	6,181	22,225,000	3,596	1,100	4,038,600
Triple glazing	981	2,679,307	2,731	200	486,900
Wet Central Heating	11,187	21,740,750	1,943	2,000	3,950,600
All measures	341,086	1,069,697,539	3,136	62,000	194,377,600

(rounded to nearest million)

£194,000,000**Average cost/home improved****£8716****Table 2: Install Air Source Heat Pumps instead of new gas and oil combi boilers**

Technology	All urban south west fuel poor		average.cost	Bristol scaled	
	number.of.installs	total.cost		bristol.number.of.installs	bristol.total.cost
Air Source Heat Pump (ASHP)	13,907	86,843,000	6,245	2,500	15,780,500
External wall insulation	6,299	45,645,016	7,246	1,100	8,294,300
Floor insulation	31,473	24,896,419	791	5,700	4,524,000
Hot Water Cylinder Insulation	16,109	724,905	45	2,900	131,700
Internal wall insulation	30,066	173,454,132	5,769	5,500	31,518,800
Loft insulation	48,497	23,750,312	490	8,800	4,315,700
Low energy lighting	50,294	8,344,675	166	9,100	1,516,300
ASHP instead of MAINS_GAS Combi Boiler	35,755	107,912,000	6,245	6,500	40,589,595
ASHP instead of OIL Combi Boiler	4,898	20,111,700	6,245	900	5,620,098
Secondary glazing	447	577,423	1,292	100	104,900
Solar DHW (solar thermal)	32,194	144,873,000	4,500	5,900	26,325,300
Solar Photovoltaic	52,798	385,919,900	7,309	9,600	70,126,500
Storage heater	6,181	22,225,000	3,596	1,100	4,038,600
Triple glazing	981	2,679,307	2,731	200	486,900
Wet Central Heating	11,187	21,740,750	1,943	2,000	3,950,600
All measures	341,086	1,069,697,539	3,136	62,000	217,323,793

(rounded to nearest million)

£217,000,000**Average cost/home improved****£9745**

Table 3: Modelled resulting improvements in EPC (based on Table 1 modelling)

Bristol FP EPC profiles		
EPC band	before measures	after measures
C	720	17,860
D	12,550	3,250
E	5,330	1,340
F	3,300	570
G	1,120	0
All dwellings	23,020	23,020
Fuel Poor Dwellings improved		22,300

Appendix E: Summary of progress in Bristol against NICE Guidelines

*Achieved? symbols: ✓ = in delivery; ↻ = partially in delivery; X = not current being delivered.
Timeframe of secured funding for activities in delivery is indicated where known.

Number	Recommendation	Achieved?	Actions
1	Develop a fuel poverty strategy	✓	This Action Plan has been produced in conjunction with the No Cold Homes Steering Group.
2	Ensure there is a single-point-of-contact (SPOC) health and housing referral service for people living in cold homes	✓	The Warm Homes and Money (WHAM) (funding to 2021) and the TEA (Tenant's Energy Advice) (funding to 2024) services enable many people to access support. WHAM will require further funding to continue beyond 2021 and to expand scope.
3	Provide tailored solutions via the single-point-of-contact health and housing referral service for people living in cold homes	✓	Six WHAM caseworkers work across multiple organisations to deliver the appropriate combination of money advice, energy, home repair and other advice and support needs, based on referrals from health, community and voluntary sector agencies.
4	Identify people at risk of ill health from living in a cold home	✓	Mapping analysis, as presented in the JSNA, to identify the scale and geography of the problem. First Contact Checklist being used for over 50s to identify people in need of support.
5	Make every contact count by assessing the heating needs of people who use primary health and home care services	↻	First Contact Bristol Checklist aims to ensure older people in access services they need, including energy advice and home improvements. This is currently only aimed at people over 50.
6	Non-health and social care workers who visit people at home should assess their heating needs	↻	First Contact Bristol is helping ensure older people are asked about relevant services they may need. This needs to be reviewed to generate more referrals and to be widened to other groups at risk of cold homes.
7	Discharge vulnerable people from health or social care settings to a warm home	↻	A WHAM caseworker rotates between discharge units at major hospitals to provide support to people being discharged to cold homes.
8	Train health and social care practitioners to help people whose homes may be too cold	✓	From 2020 WHAM to deliver training to frontline health workers in Bristol. For some workers it will be obligatory training.
9	Train housing professionals and faith and voluntary sector workers to help people whose homes may be too cold for their health	↻	Thrive programme to deliver joint training on mental health awareness and fuel poverty training.

	and wellbeing		
10	Train heating engineers, meter installers and those providing building insulation to help vulnerable people at home	X	This is not currently planned, but Bristol City Council Energy services and Futureproof could provide access to these groups. Priority activity for local action should be to: Train up heating engineers to explain how the system works in a way that occupants find easy to understand.
11	Raise awareness among practitioners and the public about how to keep warm at home	X	This is an action that should be delivered as part of cold weather planning. Advice agencies, including CSE, host and attend events throughout the year to raise awareness. This requires an online training module rolled out across the health service
12	Ensure buildings meet ventilation and other building and trading standards	X	Revised national Building Regulations are currently under review. These will increase the emphasis on ventilation.